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Navigating Leaders' Wellbeing: What Does Self Determination Theory Contribute?

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ABSTRACT

This is a study of the wellbeing of leaders in a New Zealand context. It arose in response to an increasingly complex and turbulent work environment that requires leaders to perform, including investing their full and personal selves into the workplace, above and beyond existing conditions. Clearly, however, being able to function at this level can deplete their inner resources. On the one hand, the performance challenges inherent in the current environment have called for a new approach to leadership called positive leadership. Yet, on the other hand, advances in positive leadership have not adequately addressed the positive antecedents or personal resources required for leaders to survive, let alone thrive, in this environment.

In addition, the thesis found that while advances in positive psychology, and to a lesser extent, positive organisational behaviour, focus on wellbeing, they reveal little about the wellbeing of leaders. Therefore, this study makes an original contribution to knowledge by investigating and understanding leaders' wellbeing. Specifically, the thesis unravels the benefits and complexities of Self Determination Theory (SDT), a eudaimonic theory of wellbeing, and assesses the role of SDT in facilitating additional positive life, mental health and work place outcomes for leaders.

This thesis addresses four major research questions: (1) Does SDT aid our understanding of leaders' wellbeing within the workplace? (2) What role do the various dimensions of SDT play in facilitating leaders' welfare? (3) While it has been theoretically argued that SDT forms a 'metamodel' of wellbeing, can this be empirically supported? (4) Can SDT add to the mounting empirical support for Positive Organisational Behaviour (POB), which focuses on enhancing the positive elements of organisational functioning (Luthans & Avolio, 2009)?

The thesis was designed and conducted through four separate studies. These are presented in seven research articles which aim to ascertain the full implications of SDT for leaders. Each is a peer reviewed publication presented as a separate research chapter in the thesis. Accordingly, this thesis is a thesis with publications. Three of the seven research publications have been accepted and are in press in peer reviewed journals; the others have been presented at international peer reviewed conferences and are also under review in various journals as outlined further in chapter two.

All studies use a quantitative methodology, although the type of methodology varied across the studies and included structured equation modelling (SEM), moderated regression, mediated regression and multilevel analysis. The seven separate studies are: Study 1 (in chapter three), which investigates the aspirations of leaders' and their job burnout (n=386, using SEM); Study 2 (in chapter four), which investigates leaders' motivations, enrichment and job satisfaction (two samples: n=386 and n=205, using SEM); Study 3 (in chapter five), which investigates mindfulness and leaders' mental health (4 samples: n=202, n=184, n=205, n=107, using mediated regression) as well as the role of psychological capital as a mediator; Study 4 (in chapter six), which investigates perceptions of autonomous support and job outcomes from a team level of analysis (n=457 in 199 teams, using SEM); Study 5 (in chapter seven), which investigates leaders' three needs for autonomy, competence and relatedness crossing over to employee wellbeing (n=160 leaders, n=368 followers, using multi-level analysis); Study 6 (in chapter eight), which investigates the work-family interface and leaders' three needs of autonomy, competence and relatedness (n=418, using moderated regression); study 7 (in chapter nine), which represents the entire metamodel of SDT (that is, all of the above dimensions)

towards leaders' organisational citizenship behaviours (n=386, using moderated regression).

Each empirical study found conclusive evidence of the beneficial role that SDT provides for leaders in today's workplaces. Accordingly, the thesis concludes that SDT does provide leaders with an inner resource that they can draw upon to aid their own wellbeing in the current business environment. In addition to providing insight into leaders' SDT within a New Zealand context, the thesis finds that wellbeing is a pertinent and central issue in leadership research generally. Overall, the seven studies in combination provide a comprehensive model of wellbeing, which provide a resource for POB.

Finally the thesis develops and extends previous research on wellbeing for leaders by providing a broader understanding of the benefits of wellbeing. By addressing the theoretical and empirical shortcomings of earlier studies, it also points future researchers to the area of wellbeing studies as central to the enabling of positive leaders and thriving workplaces.

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Finally, I dedicate this thesis to my two beautiful children Emily and Thomas. Their beautiful, happy faces and excitement about life and happiness, coupled with their love, has taught me much about the true nature of wellbeing.

My aim was a personal one; to promote a better understanding of the importance of wellbeing at work. I hope for some in the workplace wellbeing will now be seen as serious study.

Mā te rongo, ka mōhio; Mā te mōhio, ka
mārama; Mā te mārama, ka mātau; Mā te
mātau, ka ora.

Through resonance comes cognisance; through cognisance comes understanding;
through understanding comes knowledge; through knowledge comes life.

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CHAPTER 1

INTRODUCTION AND OVERVIEW

Overall contribution and rationale of thesis

The challenges posed by tough, demanding and changing environments are faced by leaders across all levels of organisations. The ability to manage other employees while negotiating the difficult terrain of the modern business environment is central to a leader's role. In continually performing above and beyond these difficult conditions leaders are called to invest much of their personal selves into the workplace. However, maintaining this level of intensity is personally depleting (Kahn, 1992), and reduces the ability of leaders to continue to perform during challenging times (Youssef & Luthans, 2012; Little, Simmons, & Nelson, 2007). In this context, the thesis considers the pivotal question of what personal resources assist leaders to cope with the ever increasing stresses and challenges they face.

In responding to the question, the thesis argues in favour of leaders' *wellbeing* providing the inner strength and ability to cope with these on-going challenges. Previous research has viewed wellbeing more narrowly and as peripheral (Delle Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011; Wright & Cropanzano, 2000). In this thesis, it is contended that wellbeing is central to leaders' on-going welfare, and so should be a significant concern in leadership research. Therefore, the aim of this thesis is to demonstrate the beneficial consequences of wellbeing for today's workplace leaders.

Why wellbeing? Linking positive psychology and positive leadership

Originally this research sought to uncover commonalities surrounding a number of theories of positive leadership. In doing so, it found that many theories of positive leadership are predicated either directly, or indirectly, via theoretical links to a number of central and critical elements of wellbeing (e.g. Avolio & Luthans, 2006; Hannah, Woolfolk, & Lord, 2009; Ilies, Morgeson, & Nahrgang, 2005; Spreitzer, 2006). It further identified that these central elements of wellbeing, while posited as enhancing positive leadership, have not been explored in relation to their wellbeing consequence for the leaders themselves. This anomaly required exploration. Positive *leaders*, those leaders who have the personal strength and resources to lead organisations through difficult times, are, theoretically, a prerequisite to positive leadership (Youssef & Luthans, 2012). For this reason, the thesis moved to investigate leaders' wellbeing.

Although wellbeing is a forerunner to the understanding of developments in positive leadership, it remains largely untested as to its personal implications and potential benefits for leaders. As a result, the thesis sought to further unravel the contribution of Positive Psychology (PP), and the contribution of wellbeing for leaders. This led to a theory of wellbeing which, while gaining greater attention in PP, is largely neglected in its wellbeing implications in management and leadership literature. This is called Self Determination Theory.

Self-Determination Theory

Self Determination Theory (SDT) is a highly complex theory and four major complications are addressed here. Firstly, in terms of the actual dimensions and research within SDT, there are five, or six (this is clarified shortly), separate dimensions, all of which fall under the umbrella of SDT, yet each measures wellbeing differently and independently. The main five dimensions are (1)

aspirations (2) motivations (3) mindfulness (4) perceived autonomy support and (5) the three needs (autonomy, competence and relatedness). However, the actual number of dimensions that fall within the SDT model is not fixed. Some dimensions can be replaced or substituted for other dimensions (Ryan & Deci, 2008). In addition, this thesis identified that a sixth dimension, (6) causality orientations, can be assessed independently or substituted for two other dimensions, motivation and perceived autonomy support, in research design. Therefore the actual dimensions to be used in SDT research are unclear. These dimensions and their relationship to SDT are discussed more fully in following sections and also in chapter two, the methodology and measures overview. This example of how dimensions can be changed or substituted, however, illuminates the complexity involved with unravelling, understanding and utilising SDT.

Secondly, many of the five dimensions are themselves multidimensional. Even when focusing on only one of the established five dimension of SDT, there are layers of complexity and difficulty for researchers. For example, one dimension, motivation, has six subdimensions, which all affect wellbeing differently. This problem is replicated in other dimensions in SDT, where the number of subdimensions can obscure the significance of the findings for the researcher.

Thirdly, as an added layer of complexity, research within SDT is not uniform with the terminology used or the handling of measurement items. This third complication arises when assessing both the dimensions and subdimensions of some constructs. Using the motivations dimension again as an example, motivations is sometimes called in the literature autonomy vs. controlled motivation or self-determination vs. nonself-determined motivation or intrinsic vs. extrinsic motivation, and/or self concordant goals. This divergent terminology

overly complicates investigations into and understanding of, SDT. Furthermore, when a dimension is being assessed, there is often great variety in the handling of the statistical properties and survey items. This has led to issues around the use and interpretation of survey items, analysis and application. These issues are further outlined in chapters three, four, and nine. However, it is quite usual when investigating SDT for authors to be unable to compare findings between studies. This leads to issues around consistency in scales and approaches used to assess that particular dimension and comparing these with other studies. This thesis seeks to illuminate, and provide clarification of, these issues in relation to leadership research.

The fourth and final major issue surrounding the neglect of SDT in leadership literature is that of the metamodel. As outlined above, SDT generally comprises of five separate dimensions, all of which fall under the umbrella of SDT, yet each differing in how it affords wellbeing. Accordingly, researchers in SDT tend to specialise in one of the five dimensions that comprise SDT and not the entire model. However, SDT is considered a metamodel of wellbeing; that is, all five dimensions – while separate and discrete in their influence and understanding of wellbeing – should theoretically also culminate into a metamodel of wellbeing (Deci & Vansteenkiste, 2004). So, empirically testing *all* the dimensions of SDT would create the full metamodel approach. However, empirical research on how the separate and distinct dimensions combine into an actual metamodel is scarce. Indeed, this thesis could only identify theoretical papers in which the metamodel was employed.

This scarcity is particularly pertinent, as SDT is posited by researchers (Spreitzer, 2006; Ryan & Deci, 2008), as a metamodel of wellbeing. However, as discussed, empirical researchers have tended to focus on just one of the five

dimensions in SDT, pulling SDT into different directions and interpretations. Consequently, a coherent research base, with a unified focus across all five dimensions from which to examine the metamodel of wellbeing, has not been established. This thesis will contribute to building such a metamodel.

Overall, this thesis clarifies and forges understanding of SDT particularly in relation to the importance of each of the five dimensions (and their associated subdimensions) towards leaders' wellbeing. It culminates in a final metamodel of SDT: in doing so it not only unravels the complexities of SDT, but simultaneously draws attention to the importance of SDT for leaders' wellbeing.

The overall aim

By undertaking investigation and research on each of the five dimensions of SDT culminating into the metamodel of wellbeing, this thesis champions research into SDT within the workplace in relation to leaders' wellbeing. This thesis has the following four major research questions:

- 1. Does SDT aid our understanding of leaders' wellbeing within the workplace?*
- 2. What role do the various dimensions of SDT play in facilitating leaders' welfare?*
- 3. While it has been theoretically argued that SDT forms a 'metamodel' of wellbeing, can this be empirically supported?*
- 4. Can SDT add to the mounting empirical support for Positive Organisational Behaviour (POB), which focuses on enhancing the positive elements of organisational functioning (Luthans & Avolio, 2009)?*

Overview of Self-Determination Theory

In order to answer the research questions, each dimension of SDT is covered in a chapter dedicated to that particular dimension. Each of these chapters has either been published, or is in-press, or is under review, in various journals (see chapter

two) so that this is a thesis with publications. Each research article is dedicated specifically to investigating the implications of the relevant dimension for leaders. The five dimensions are individually covered in chapters three to eight. The final research article, presented in chapter nine, is dedicated to the contribution of the metamodel to leaders' welfare. Chapter two outlines the methodology and sample and overviews the statistical procedures, while chapter ten offers final conclusions and recommendations.

The purpose of the rest of this chapter is to more fully introduce SDT, its dimensions, and how it has developed into the current theory. The complexities of the theory are introduced, and the theory's relevance to leaders is highlighted. However, the full intersection of SDT and leaders' welfare is undertaken within each of the relevant research chapters that follow.

This chapter also clarifies SDT's overarching philosophies that provide the framework for the integration of each of the separate SDT dimensions within the metamodel. This is important, as these unifying philosophies underpin the theoretical inclusion of discrete dimensions into the metamodel. Thus, while the dimensions all differ in their wellbeing assessment, the underlying philosophies unify and integrate these dimensions. Finally, the relationship between SDT and positive leadership is outlined and a more thorough clarification of wellbeing terminology, particularly as it is used in PP is provided. The operationalising of the term 'leader' as it is used in this thesis is also clarified prior to a brief introduction to the research articles.

Defining Self-Determination Theory

SDT is a theory of wellbeing, based on the premise that wellbeing is gained through autonomous self-action and self-motivation. It has been argued that when people autonomously seek opportunities that allow them to grow, connect with

others, broaden their knowledge and engage in challenges, they are able to reach their fullest potential (Deci & Ryan, 2000; Greguras & Diefendorff, 2009). For wellbeing to be fully realized, the individual needs to be able to integrate these autonomously chosen experiences into an authentic sense of self.

SDT views autonomy as fundamental to wellbeing and, importantly, autonomy stems from within the person: SDT refers to ‘psychological autonomy’, not task or job autonomy (Chirkov, Ryan, & Sheldon, 2010). Thus, as people self-regulate and self-monitor their activities to ensure that they are undertaking goals, relationships and challenges autonomously, and based on self-expectations and interests, they are deemed to be ‘self-determining’. Alternatively, if people are undertaking activities based on others’ evaluations, or they feel pressured to meet others’ expectations, they are not autonomous, nor self-determining, but controlled. There is a consensus that feeling controlled, whether by others, or as part of one’s intrapsychic processes, is detrimental to wellbeing while being self-determining is beneficial (Deci & Ryan, 2000; Greguras & Diefendorff, 2009; Vansteenkiste, Neyrinck, Niemc, Soenens, De Witte, & Van den Broeck, 2007).

The five pillars of SDT

Although primarily concerned with how autonomy is gained or lost, SDT is comprised of five separate dimensions that, based on autonomous action, afford wellbeing differently. These dimensions are: (1) the goals in life we choose, called, aspirations; (2) the way we motivate ourselves towards activities, called motivations; (3) how we self-monitor and regulate ourselves, called mindfulness; (4) how we perceive the environment we are in as supporting our autonomy, called perceived autonomous support; which all culminate in meeting (5) the three needs of autonomy, competence and relatedness.

As outlined previously, there is another dimension called causality orientations, which fundamentally refers to an individual's natural orientation towards autonomy. However, this dimension is considered minor, exerting a less stable influence on wellbeing, especially when assessing a person's motivation and perceived autonomous support, which are covered, in depth, in this thesis. For this theoretical reason this minor dimension is not included (see Ryan & Deci, 2008; Williams, Freedman, & Deci, 1998, Ryan & Huta, 2009). Indeed, its exclusion is countered by the other two dimensions where a major overlap is viewed theoretically as occurring.

Dimensions one to four are referred to as antecedents of self-determination because they facilitate the ability to positively experience the three needs, which is the fifth dimension. This is shown in figure 1 (pg. 21), and each of the five dimensions are overviewed in the following sections.

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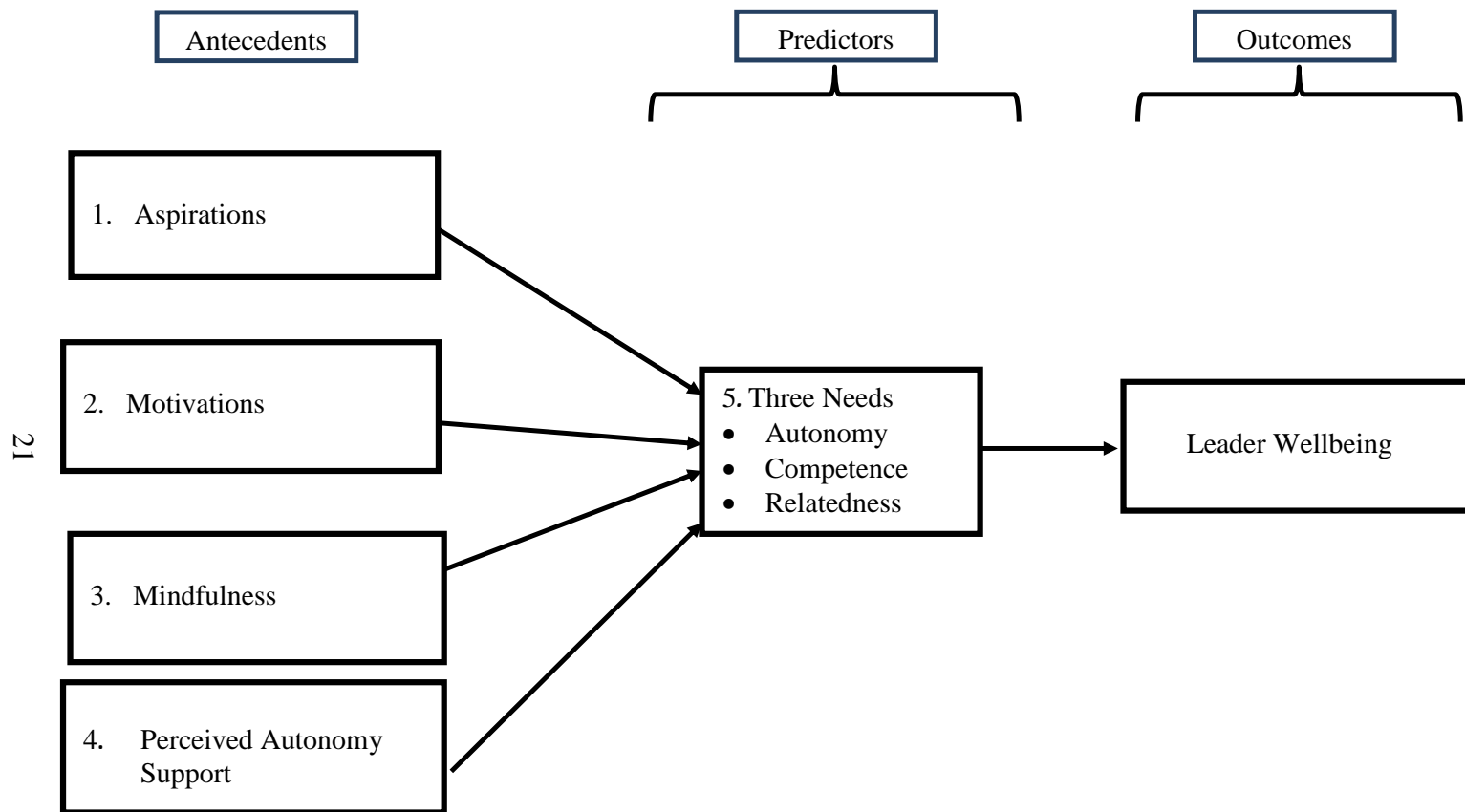


Figure 1: SDT Dimensions and Relationships to the Overall Metamodel

SDT aspirations: how they facilitate or undermine wellbeing

Life goals, referred to as aspirations, is the dimension of SDT concerned with understanding how the goals pursued in life have either a positive or negative consequence on wellbeing. Simply, some goals facilitate wellbeing, while other goals undermine wellbeing (Deci & Ryan, 1985; 2000). The two types of aspirations are discussed in the following paragraphs.

Pursuing life goals to enhance fame, financial wealth and image have been found to undermine wellbeing. This is because their pursuit, generally, is based on others' evaluations of goal success. Being viewed as rich, famous and/or beautiful, is what drives the person, and since obtaining these goals is contingent on others' evaluations of success, pursuing these goals is not autonomous, self-endorsed or self-regulated, but controlled by others' expectations and opinions (Kasser, Cohn, Kanner, & Ryan, 2007). The external evaluation of goal success is why these three goals (fame, wealth and image) are termed extrinsic aspirations – they are externally driven and valued. Research on extrinsic life goals, within clinical settings, has found that pursuing money, fame and beauty undermines a person's wellbeing. This leads to negative outcomes, such as feelings of over competitiveness and inadequacy in the individual (Deci & Ryan, 1985; 2000; Kasser et al, 2007).

In contrast to extrinsic aspirations, goals that are pursued for reasons of personal growth, enhancing relationships, community development and health are intrinsic aspirations. These are termed intrinsic aspirations as they are autonomously governed and self-regulated by the person. As such, from an SDT perspective, they are psychologically autonomous, and thus they enhance

wellbeing. A person's striving for personal growth, for example, is not reliant on others' evaluation of success, rather success is measured internally. As such, this type of success is autonomously governed, and hence facilitates wellbeing. Similarly, pursuing and developing positive relationships is psychologically autonomous in how it is governed and pursued. So, intrinsic aspirations not only enhance wellbeing, but they have been found to facilitate further positive outcomes for the person. Kasser et al. (2007) found that pursuing intrinsic goals is positively related to a person's life satisfaction, relationship satisfaction, prosocial behaviour and a range of other positive outcomes.

While generally the pursuing of intrinsic life goals, such as personal growth, relationships, community and health, as opposed to pursuing extrinsic goals of wealth, fame and image have been found to enhance wellbeing in a number of clinical research settings (Kasser & Ryan, 1993; 1996) this thesis identifies that research on leaders' aspirations is missing from the literature. This is despite the emergence of, and calls in positive leadership literature, to develop a greater understanding of the importance of relatedness, community and personal development for leaders (Cameron, 2008; Cartwright & Holmes, 2006). Consequently, chapter three extends the understanding of the aspirations dimension towards leaders' and focuses particularly on the impact on leaders' wellbeing of pursuing extrinsic or intrinsic aspirations, especially in terms of job burnout. Chapter nine links further aspects of leader aspirations to the final metamodel study of leaders' wellbeing.

SDT motivation: Quality not quantity that drives wellbeing

The second dimension of SDT is concerned with how a person motivates themselves towards activities, with a particular emphasis on the quality of motivation. Generally, the motivations dimension of SDT is the most cited and understood (Gagne & Deci, 2005). This thesis identifies that this approach is so prevalent that some researchers refer to the motivations dimension *as* SDT, confusing the role of motivations and the wider SDT metamodel (Deci & Ryan, 1985; 2000; Bono & Judge, 2003).

Historically, the motivations dimension of SDT was only concerned with ‘intrinsic motivation’ (Deci & Ryan, 1985); that is, how the task itself motivates. However, in the last 25 years, SDT widened the understanding of motivations and wellbeing by addressing how the nature and quality of extrinsic, and motivation external to the activity itself, have an influence on wellbeing. Broadly, external motivation is behaviour that is instrumental to the activity, for example, working for payment. Yet SDT views distinct forms of instrumentality that motivate one towards activities. These distinct forms of instrumentality may still aid wellbeing, depending on the *type* of instrumental motivation. For example, undertaking an activity because it reflects one’s beliefs and values is a motivation external to the activity, and as such is instrumental in undertaking the activity, yet it reflects a high quality form of motivated action. Therefore, with SDT, some forms of instrumental and external motivation are still autonomous because some forms of instrumental motivation are internalised. That is, the motivation is based on the person’s autonomously chosen beliefs and values. As such, some forms of instrumental motivation (that is, external and extrinsic) are indeed self-concordant and psychologically autonomous, and hence self-determined.

As previously stated, this dimension of SDT is by far the most complex. Generally, this is because within the motivations dimension, there are six subdimensions. These are outlined in figure 2 and further overviewed in this section. By and large however, SDT indicates that motivations fall along a continuum from high quality and self-determined motivations to low quality and nonself-determined motivations. These high quality motivations have three forms (intrinsic, integrated and identified) of motivation. Low quality and nonself-determining motivation also has three different forms. These forms are further explained in the relevant articles in later chapters in this thesis, but are briefly covered here. Intrinsic motivation (1) is autonomous motivation based on the engagement in the activity itself. It is the activity that motivates action. Integrated motivation (2) however, is considered a high quality motivation as a person's motivation towards an activity reflects the full integration of that person's beliefs and values, with the activity being undertaken, and other aspects of a person's life (that is, whether at work or at home, a person is being true to their values and beliefs). The third form of motivation is identified motivation (3); this form of motivation stems from the person identifying with the values of the organisation or of the activity they are undertaking, not the activity itself.

These three forms of motivation are quality motivations and are referred to (usually) as self-determined motivations. They stand in contrast to nonself-determined motivations, which are viewed as low quality motivations: introjection motivation (4), refers to being motivated for ego enhancing reasons, such as working towards a promotion, as gaining the promotion will then enhance the person's ego; and external motivation (5) refers to low level and low quality

exchanges, such as going to work for pay. Finally amotivation (6) reflects a lack of any motivational intention or action.

Overall, SDT motivations are seen as falling along a continuum of internalisation. The more internalised the motivation, the more autonomous and self-determining the person will be when enacting the behaviours (Deci & Ryan, 1985, 2000). More autonomous and self-determining motivations garner a beneficial influence to wellbeing. Alternatively, nonself-determined motivations are detrimental to wellbeing (Deci & Ryan, 2000). Generally, the full motivations dimension of SDT is multifaceted, and research has diverged as to how motivation is measured, with many research articles calculating and operationalising motivation in differing ways (see Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009). Hence, although motivation has generally been researched in the organisation literature, this thesis identified that the full continuum of six subdimensions of motivations is missing from the analysis particularly in relation to leaders' motivations (Tremblay et al., 2009). Therefore, this thesis undertakes a review of all six subdimensions of SDT motivations (see chapter four). Motivations are also covered in chapter nine the final metamodel study towards wellbeing.

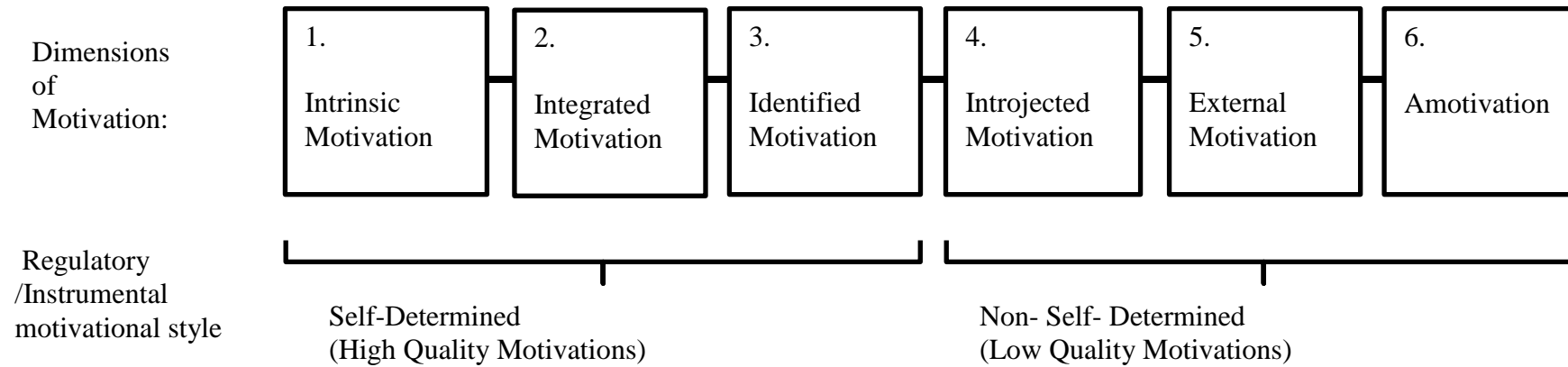


Figure 2: Motivation and Regulation Type. Adapted from Tremblay et al. (2009).

SDT mindfulness: Present minded attention and awareness enhances wellbeing

Being mindful and acting with a sense of awareness and focus on being present, aware and attentive, rather than being distracted and operating in automatic mode, summarises the third dimension of the SDT metamodel, mindfulness. SDT mindfulness drew from the Eastern principles of mindfulness where attention and awareness towards the present time are heightened, although judgement regarding the situation is halted (Brown & Ryan, 2003). Mindfulness, in clinical settings, has been found to be crucial in self-regulation, buffering stress, and facilitating emotional stability (Brown, Kasser, Ryan, Linley, & Orzech, 2009). As self-regulation is vital to self-determined action, mindfulness is posited to facilitate wellbeing and psychological autonomy (Ryan & Deci, 2008; Ryan, Huta, & Deci, 2008).

Mindfulness is compromised if individuals behave compulsively or automatically, without awareness of, or attention to, their senses, behaviour and underlying thought tendencies (Brown & Ryan, 2003). Awareness and attention to behaviour and underlying thought tendencies is central to SDT (Brown & Ryan, 2003; Deci & Ryan, 2008) and has long been a topic of SDT inquiry (see Deci & Ryan, 1985). However, researchers have only recently begun to examine this issue from a mindfulness perspective. As such, SDT developed and employs the Mindfulness Awareness Attention Inventory (MAAS) to research mindfulness based on Eastern conceptualisation (Brown & Ryan, 2003). The components of mindfulness are: (1) non-evaluation (non-judgement), (2) open receptivity of the situation, and (3) present-centeredness. These three components reflect a

particular quality of awareness and attention that work in conjunction to culminate in mindfulness (Brown & Ryan, 2003; Brown, Ryan, & Creswell, 2007).

SDT drew from Eastern conceptualisation of mindfulness in its development, and this stands in contrast to Western conceptualisations of mindfulness where categorisation and assessment of thinking are encouraged (see Glomb, Duffy, Bono, & Yang, 2011). Thus, being open, non-judgemental and present-minded in a situation, stands in contrast to an approach where one categorises and evaluates the present situation. Although clinical research in Eastern mindfulness attests to the beneficial role of mindfulness in wellbeing, within the work place this research remains nascent. This is in spite of calls by researchers (for example, Dane, 2011) to investigate more fully the role of Eastern mindfulness, and even more specifically, calls to employ the SDT mindfulness dimension, in relation to workplace wellbeing outcomes (Glomb et al., 2011). This thesis identifies this as a significant gap, and therefore limitation, in the research in relation to the wellbeing of leaders. In overcoming this limitation, the thesis deploys SDT's application of Eastern mindfulness rather than Western conceptualisations, on a range of organisational leaders (see chapter five). Chapter nine further addresses the importance of mindfulness in the final metamodel study towards leaders' wellbeing.

SDT Perceptions of Autonomy: The social context

SDT is also concerned with what aids people, within their social environment, to be motivated towards activities that are growth promoting and meaningful. Although the majority of the SDT dimensions focus on the individual, perceived autonomy support (PAS) investigates the crucial role that the social context plays

in aiding, or hindering, wellbeing. The current research around PAS within SDT has developed a dimension that is primarily concerned with the social context within which wellbeing is sought. Fundamentally, PAS refers to the degree of psychological autonomy people perceive they have from their environments, as they pursue meaning and growth related activities. This dimension is central to this thesis. SDT is the only metamodel of wellbeing that identifies the significance of the workplace context, not only individual differences, in supporting wellbeing.

Much of the research surrounding PAS is within clinical settings. However, a number of research articles have investigated the role of PAS at work (Gagne, 2003; Liu & Fu, 2011). That is, the workplace is a social environment in which wellbeing is sought, and previous research on PAS has found that the workplace can support people's autonomy and enhance their wellbeing, or thwart their autonomy, resulting in ill-being. In chapter six, this thesis extends the PAS literature by calculating and testing PAS as a team level construct. That is, given the importance of teams within the workplace, this thesis identifies that teams of employees, not individual employees, are reliant on leaders for autonomy support. Thus, this thesis extends the understanding of the benefits of leaders who encourage PAS, towards the team level perceptions of autonomy support, which has previously been unexplored (see chapter six).

Furthermore, in chapter nine, the metamodel study extends the importance of PAS for leaders' own wellbeing by examining how leaders within organisations flourish when *their* leaders encourage autonomy support. That is, for the first time, the research in this thesis identifies how leaders within organisations perceive their leaders as encouraging autonomy support, and the crucial role this has in the lower level leaders' positive workplace experiences.

Chapter nine also includes a unique contribution by testing the potential moderating effects of PAS, which has only been tested once in this manner, and not on a workplace sample.

SDT Three Needs: Autonomy, Competence, and Relatedness are the nutriments of wellbeing

All of the above dimensions act as antecedents in facilitating the experiencing of SDT's three basic psychological needs (the three needs) for autonomy, competence and relatedness. According to SDT, the experiencing of the three needs provides for psychological autonomy and wellbeing. The three needs are considered universal aspects of positive functioning. Thus, in SDT, needs specify 'innate psychological nutriments that are essential for ongoing psychological growth, integrity, and well-being' (Deci & Ryan, 2000, p. 228). As the three needs are central to SDT, this thesis has two separate research articles dedicated to investigating their role (chapters seven and eight), and they are further investigated in the final metamodel of wellbeing (chapter nine).

Some research has assessed the importance of the three needs for employees (for example, Konjanic, Schuh, Jonas, Quaquebeke, & Van Dick, in press). However, this thesis pioneered understanding of the importance of three needs for leaders. Chapter seven leads SDT and leadership research by investigating how leaders' experiences of autonomy, competence and relatedness have a contagion effect on employees' wellbeing. In this way, chapter seven offers new insights into the importance for leaders of having their three needs met by demonstrating how leaders' three needs are beneficial, and positively contagious, towards the wellbeing of their employees (followers). This is the first

time leader-follower effects of the three needs have been tested in the SDT literature.

The research article in chapter eight investigates how the work and family interface can support or detract from leaders' ability to positively experience SDT's three needs. This research article, based on a pilot study for the thesis, also presents an analysis of how work and family interface dynamics can have different influences for those in senior leadership positions, something previously unexplored in the literature. Although chapter eight was the pilot study for this thesis, it is one of the last papers presented in the thesis because the three needs topic is the final integrating topic for SDT, and hence its location near the end of the research article chapters. In chapter nine, the metamodel study, the three needs are again extending by including the three needs as predictors of other forms of wellbeing, specially relating to the workplace performance outcome of organisation citizenship behaviors (OCBs).

Leading to a SDT metamodel of wellbeing

As discussed, SDT has developed through over 40 years of research and has been applied to various life domains, including education, sports, health, family studies and psychological development (Deci & Ryan, 2000). Although the research basis is primarily outside of the workplace, those studies that have been conducted within the workplace provide support for extending the full range of the SDT metamodel into the workplace (Gagne & Deci, 2005; Greguras & Diefendorff, 2009, 2010; Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008; Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010). Of the studies conducted on the workplace few, if any, examine the entire metamodel towards

workplace outcomes, in spite of calls for the SDT metamodel to be utilised as a framework for positive organisational studies (Spreitzer, 2006; Ryan et al., 2008).

As previously discussed, SDT is considered a metamodel of wellbeing. Therefore, although each dimension offers a different insight into wellbeing (Deci & Ryan, 2000), all dimensions should aid wellbeing. The final research paper, in chapter nine, is an analysis of all the dimensions in the metamodel. It specifically investigates aspirations, motivations, mindfulness, and the three needs, moderated by PAS, towards leaders' OCBs. Chapter nine reviews the scant literature on the metamodel towards wellbeing. However, the empirical research on the metamodel towards OCBs, contained within this thesis, is, to my knowledge, the only study that tests the entire metamodel of SDT towards a workplace outcome, and specifically leaders' wellbeing relating to performance.

Chapters three through to eight all provide an in-depth review of the relevant SDT dimension, metamodel, literature review and full intersection of SDT and leaders' wellbeing. The following section now examines SDT's unifying principles.

SDT: A psychological theory linked by unifying theoretical underpinnings

As outlined earlier, SDT has a number of dimensions and subdimensions that are distinct in their effects on wellbeing. As such, in order to be included into the metamodel of SDT, each dimension is predicated on certain theoretical underpinnings, which are outlined further below. By engaging in a unified theoretical framework, SDT provides a basis to include diverse dimensions within the STD umbrella of wellbeing. This is important, because this thesis identifies that SDT considers itself to be a 'growing' metamodel, whereby other dimensions can be added if they fit the theoretical underlying and unifying criteria. Therefore

the following sections briefly outline the three key theoretical underpinnings that ‘link’ the current metamodel with the individual dimensions. In doing so, they provide background context to the current unified SDT metamodel of wellbeing that is not covered in the research articles and chapters.

You’ve got to accentuate the positive

Positive Psychology (PP) is concerned with understanding that which is right for individuals, as opposed to the deficit model of psychology that has dominated research for many years (Ryan, Huta & Deci, 2008). Positive Organisational Behaviour (POB) is empirically informed by PP; however, POB focuses interest on *employees’* optimal functioning and positive experiences at work (Youssef & Luthans, 2007). SDT, like PP and POB, dissociates itself from a disease model in which the focus is on individuals’ weaknesses and the overcoming of ill-being. Thus SDT’s focus is on the *positive orientation* humans have towards wellbeing. Drawing from the recent growth in POB research, it has been convincingly argued that SDT as a metamodel (combining many dimensions, with the particular inclusion of the workplace context as explained above) provides for a coherent framework in which POB can be grounded (Deci & Vansteenkiste, 2004; Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005). However, as yet, empirical research on the contribution of the SDT metamodel to POB is limited.

It is more than a feeling—wellbeing is the doing

Not all PP and related conceptualisations of wellbeing are the same. Indeed, as research progresses in PP, a greater understanding of wellbeing, and differing

types of wellbeing, has been garnered (Page & Vella-Brodrick, 2009; Huta & Ryan, 2010).

Not only does SDT have a positive orientation towards wellbeing, SDT is considered to be a eudaimonic theory of wellbeing (Ryan et al., 2008). Eudaimonic wellbeing is based on the rationale that wellbeing is gained while engaging in meaningful experiences. Hence, eudaimonic wellbeing is determined by the type and nature of experience sought, rather than by the pursuit of a specific state or outcome such as feeling happy or feeling satisfied with one's life (Lyubomirsky & Ross, 1997). Underpinning the SDT metamodel is the idea that wellbeing is sought and gained in the experience of growth, rather than seeking momentary attainment of happiness, money, or joy (Page & Vella-Brodrick, 2009; Ryan et al., 2008).

Alternatively, feeling happy and in a good mood (and similar measures) are considered to be hedonic measures of wellbeing. Hedonic wellbeing is viewed as a 'having' orientation, whereby the attainment of wellbeing is defined by gaining a particular state or outcome (such as feeling happy). Eudaimonic wellbeing, alternatively, focuses on on-going engagement in life activities that shape growth and development. Figure 3 (below) illustrates these theoretical distinctions:

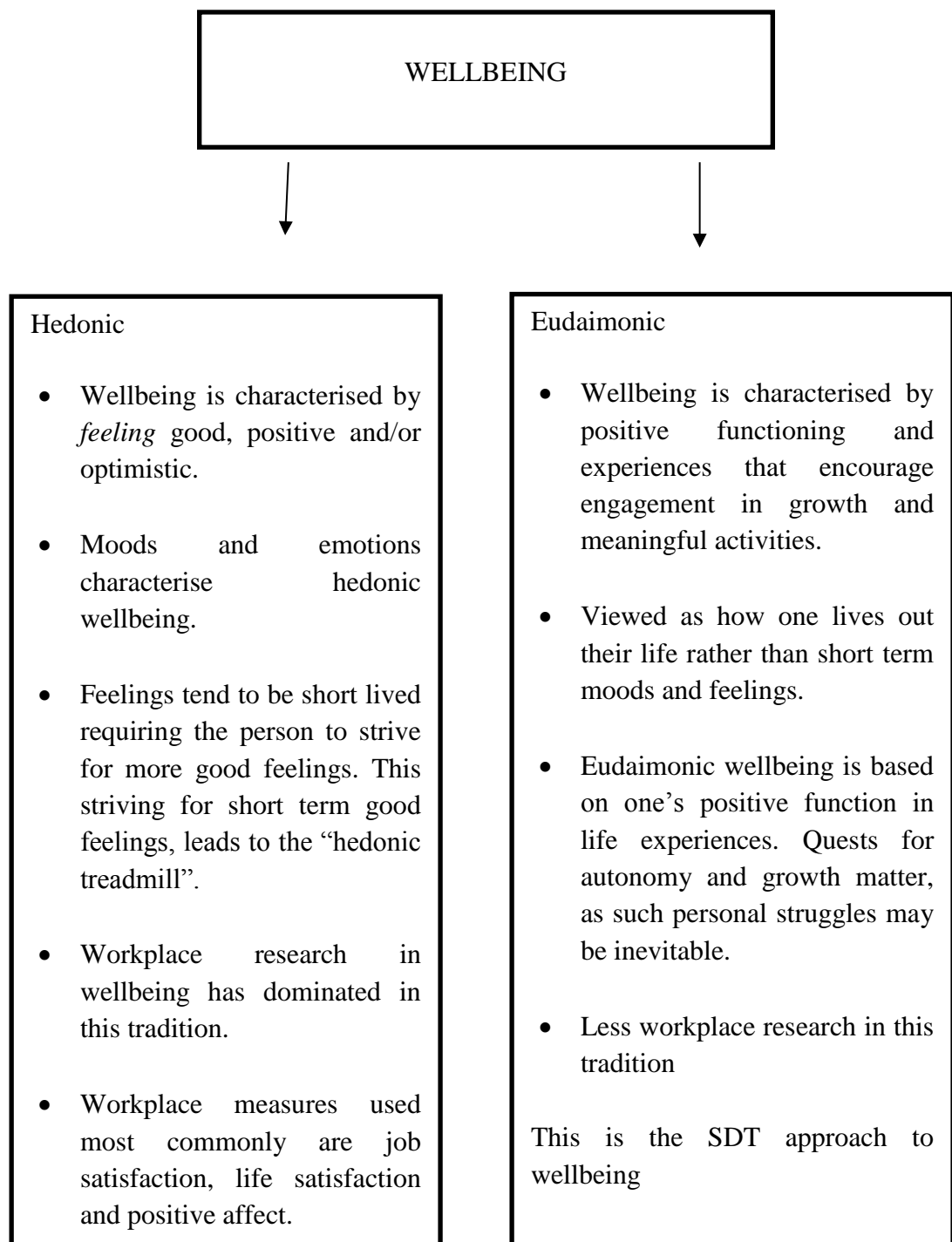


Figure 3: Wellbeing – Hedonic and Eudaimonic Conceptualisation.

Wellbeing: it is a natural human tendency

SDT is not only a theory of eudaimonic wellbeing but considers wellbeing to be a natural, human tendency and drive. As such, we naturally orientate towards, and seek out, experiences of (eudaimonic) wellbeing. This is termed an organismic orientation to wellbeing. This principle posits that it is an innate tendency to strive and be motivated to engage in interesting activities, to challenge one's skills and to pursue meaningful relationships and connections with others. As such, the assumptions behind the metamodel purports that people, as active living organisms, tend to *naturally* want to progress and orientate their actions towards wellbeing.

The social context: It can help or hinder wellbeing

Although SDT is an organismic theory of wellbeing, it also recognises the role of the social context in enabling human growth or stifling it. This is referred to as the dialectic principle. There is a strong interaction between an individual's pursuit of wellbeing and growth and the social context, which either allows the individual to internalise growth or inhibits it. This unifying principle of the metamodel suggests that the natural developmental tendencies of humans do not operate automatically, but instead require on-going social nutrients and support from their environment. That is, the social context is critical to supporting or thwarting a person's pursuit of growth. Therefore, the interaction between the person and his or her environment is dialectic. Of particular relevance to this thesis is the point that SDT views the workplace environment as aiding in predictions regarding wellbeing, experience and development. The workplace is also central to development of POB studies where the workplace, not only individual

orientations, is the focus of positive organisation research. Therefore, the dialectical philosophy was central to pursuing SDT rather than other theories of eudaimonic wellbeing that focus only on individual orientations (for example, Ryff & Singer, 1996) as the inclusion of the workplace supports POB criteria. So SDT is dialectic in form: the positive interaction between the person and the environment is essential to wellbeing.

Overall, the SDT metamodel is based on the unifying principles that: (1) it is a positive theory of human wellbeing, including advocating that wellbeing is eudaimonic in nature (that is., it is gained via experience); (2) that humans are organismic and innately motivated towards wellbeing and growth; and (3) that wellbeing and growth happen within the social context, including the workplace. These theoretical underpinnings set the context for the metamodel and for each of the dimensions included in the metamodel. These underpinnings underlie each of the research chapters contained within this thesis.

The relationship between leaders, positive leadership and SDT is now examined, along with a more comprehensive analysis of research in the area of PP and wellbeing. This includes defining wellbeing, recent issues in defining wellbeing, and how this thesis operationalises wellbeing.

Leaders, Positive Leadership and SDT: The wellbeing imperative

Leadership can be defined in a number of ways: the focus of group attention, a form of exerting influence, a method of gaining compliance, a set of behaviours, a social phenomenon, a power relationship, or an instrument to achieve goals (see Bass, 1990). Leaders and leadership is therefore a broad construct. However, within this thesis a leader is defined simply as someone who is assigned to a leadership position and exerts influence within an organisational context

(Northouse, 2010). While acknowledging that differences in leaders and managers exist, this thesis uses the terms “leader” and “manager” interchangeably at times. This approach is similar to other researchers who examine leaders but use various levels of managers from organisations as their sample of leaders (see for example, Wang & Howell, in press; Tsui, Zhang, Wang, Xin, & Wu, 2006; Little et al., 2007; Quick, Macik-Frey & Cooper, 2007). Therefore, the following chapters may refer to both leaders and managers.

Positive leadership has a particular focus on developing the best in individuals and organisations through leader influence. This has resulted in research surrounding the role of positive leaders in developing enhanced human capability and individual flourishing at work, as well as thriving organisational dynamics and cultures (Cameron, 2008).

Authentic leadership, servant leadership, ethical leadership and transformational leadership all provide differing theories and directions for positive leadership. Indeed, there is not one, but many, theories of positive leadership (Avolio, Walumbwa, & Weber, 2009). In general these theories share commonalities aimed at improving the quality of leadership through an understanding of how a leader’s personal characteristics and motivations result in a leader’s ability to engage in positive and growth orientated relationships and strategies (Quick et al., 2007). The underlying tenet is that these positive states and traits of leaders result in enhanced individual, organisational and community wellbeing (Avolio & Luthans 2006; Avolio et al., 2009; Cameron, 2008; Greenleaf, 1998; Hannah, Woolfolk, & Lord, 2009; Hart, Conklin, & Allen, 2008; Quick & Quick, 2004; Wright & Quick, 2009a, 2009b). However, these leadership theories are not viewed as being universally distinct from SDT, and

indeed, some of these are based on aspects of SDT (Avolio & Luthans, 2006). Consequently, rather than a theory of positive leadership, SDT offers a lens through which positive leaders' motivation and wellbeing can be understood and examined empirically, in facilitating positive outcomes.

The wellbeing imperative

Furthermore, and fundamental to this thesis, is the fact that relatively little is actually understood about wellbeing (Page & Vella-Brodrick, 2009) and particularly leaders' wellbeing (Ilies et al., 2005). Wellbeing is often narrowly defined, providing only a limited view on how it contributes towards positive outcomes. This is mostly because research on leaders' wellbeing is from the hedonic tradition of wellbeing where being in a good mood or keeping an optimistic outlook is how wellbeing is defined (e.g. Sy, Côté, & Saavedra, 2005; Collinson, 2012).

Although research within the hedonic tradition has examined the benefits of leader positivity on positive employee moods (for example, Sy et al., 2005), other research suggests that engaging in positive and optimistic thinking may well be unrealistic for leaders in today's dynamic, unpredictable, and, therefore, highly stressful environment. So, being unrealistically 'positive' is touted as wellbeing, despite the difficult context. This has led to criticisms of positive leadership. Indeed, some researchers, drawing from this limited understanding and definition of wellbeing, dismiss wellbeing for leaders as a 'prozac' response to real problems and real leadership situations (Collinson, 2012). As such, over reliance on these hedonic measures may be inadequate for assessing and developing wellbeing resources that may assist leaders during turbulent times.

In contrast, Deci and Vansteenkiste (2004) and Spreitzer (2006) refer to SDT as a fundamental driver of positive eudaimonic wellbeing within the workplace. Similarly, Ilies et al. (2005) suggest SDT is a specific driver of positive leadership. Huta and Ryan (2010) found that the spread of eudaimonic wellbeing enhanced the wellbeing of others, which is a central element of positive leadership influence. Nonetheless, there remains a need to test this assumption empirically, which is the rationale of this thesis.

SDT matters; but wellbeing is holistic

This thesis employs an understanding of wellbeing based on eudaimonic wellbeing research that links SDT and leaders' welfare. However, developments in PP suggest that a greater understanding of *all* wellbeing concepts needs to be employed in research in order to develop a greater understanding of both forms of wellbeing, eudaimonic and hedonic (Huta & Ryan, 2010). Thus, this thesis incorporates both in order to more fully understand leaders' wellbeing. However, the hedonic concepts are only tested as *outcomes* of SDT (eudaimonic wellbeing). This approach is consistent with the current PP literature that suggests that eudaimonic wellbeing may garner greater hedonic outcomes and that this may provide for a more comprehensive model and understanding of wellbeing in general (Huta & Ryan, 2010).

Further, as this research is set within the workplace, advancing POB is a driver of this thesis. Thus, the thesis includes a number of work related outcomes that are influenced positively by SDT, and a secondary aim, as outlined in research question number four, page 17, is to demonstrate the importance of

wellbeing more generally for leaders in terms of beneficial work place outcomes, pioneering POB research within the leadership area.

Accordingly, the thesis undertakes a broad and holistic framework of wellbeing to provide a comprehensive model of leaders' wellbeing. In doing so this thesis includes an analysis of how detrimental outcomes, such as anxiety and depression can be reduced by various dimensions of SDT. As finding determinants that aid in reducing mental health problems would fit with SDT, PP and POB underlying philosophies. Finally, work-related outcomes are also tested as these provide insight into eudaimonic wellbeing and workplace outcomes consistent with the POB approach. Overall, this thesis undertakes a comprehensive study of wellbeing and includes both work and non-work outcomes as well as mental health outcomes, to form a broad and holistic context of wellbeing, as shown in figure 4.

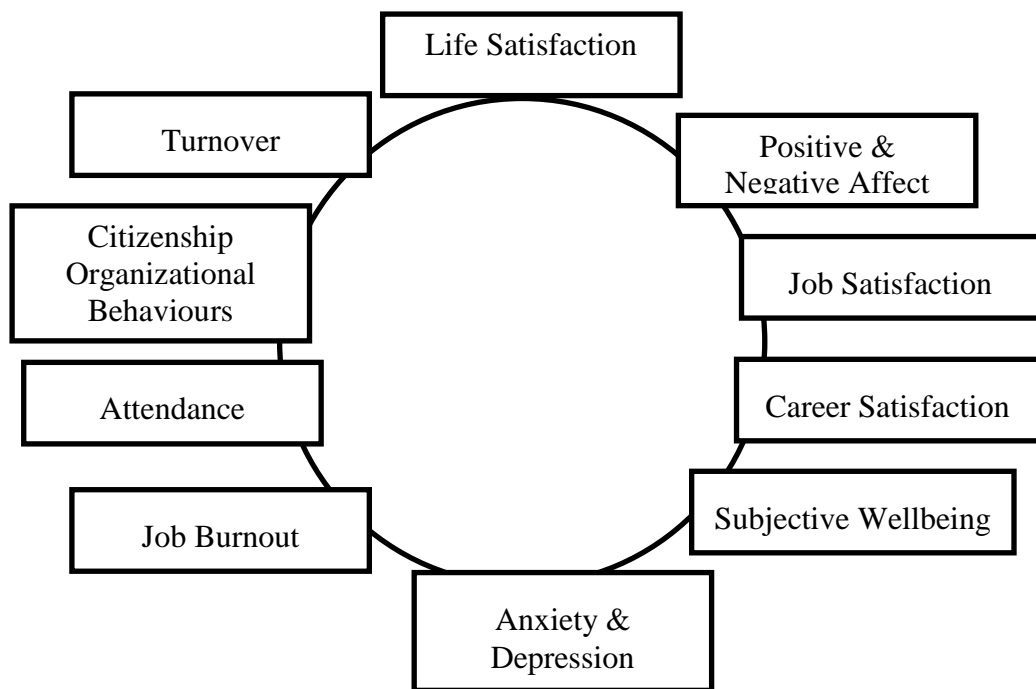


Figure 4: Range of Outcomes Studied

Organisation of the thesis

As discussed above each dimension of SDT is covered in a chapter dedicated to forging understanding of the importance of that particular dimension's role in the wellbeing of leaders. The importance of the metamodel is covered in the final research article, chapter nine. Each of the research chapters that follow contains the research article and also an outline of the article's publication status and the role of collaborating researchers. Finally each research chapter also incorporates various forms of wellbeing *outcomes*, thus highlighting the holistic role of wellbeing for leaders. Table 1 below outlines each of the research articles and specific areas of investigation for chapters three to nine, as follows:

Table 1: Overview of Research Articles and Chapters

Chapter	Title	SDT Dimension covered
Chapter Three	Leaders' Life Aspirations and Job Burnout: A Self-Determination Theory Approach.	Aspirations This chapter covers leaders' life aspirations and the implications of these on leaders' job burnout.
Chapter Four	Self-Determination Theory Motivations to Job Satisfaction: The Mediating Role Of Work-Family Enrichment.	Motivations This chapter investigates the full range of motivations towards leaders' job satisfaction. The work family interface is also examined as a mediator of leaders' job satisfaction.
Chapter Five	Responding To The Pressure. The Role of Mindfulness and Psychological Capital on the Well-Being of Organizational Leaders.	Mindfulness This chapter investigates leaders' mindfulness and the role of mindfulness in buffering negative mental health outcomes, over four leadership levels.
Chapter Six	Team Level Perceptions of Autonomy Support and Job Outcomes: A Mediation Study.	PAS This chapter investigates team level perceptions of autonomy support, and the implications of this across a range of work related outcomes.
Chapter Seven	Chapter Seven: Leader to Follower Wellbeing: A Self-Determination Theory Approach	Three Needs: autonomy, competence and relatedness. Investigates the influence of leaders' three needs on employee three needs and wellbeing.
Chapter Eight	The Work-Family Interface Predicting Needs Satisfaction: The Benefits for Senior Management.	Three Needs This chapter views three needs as an outcome of the positive interaction between work and family. An analysis of leadership levels and needs satisfaction is also undertaken.
Chapter Nine	A Metamodel Approach towards Self-Determination Theory: A Study of New Zealand Managers' Organisational Citizenship Behaviours.	Metamodel This chapter investigates the entire metamodel of SDT on leaders' citizenship behaviours. That is, aspirations, motivations, mindfulness, which are moderated by PAS towards OCBs are investigated.
Chapter Ten	Concludes and summarises the thesis' findings, and areas of future research within SDT and positive leadership.	Conclusion, limitations and future research.

As noted above, each of the chapters (three to nine) investigates the dimension of SDT pertinent to that study. In doing so, it is intended that this thesis will add to the understanding of the internal processes related to leaders' wellbeing. The next chapter describes the seven research articles, including a brief review of the contribution to the literature, the actual hypotheses tested and provides information on the methodology and study findings.

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CHAPTER 2

METHODOLOGY AND DESIGN OF STUDIES

Overview of methodology, samples and procedure

The previous chapter outlined the history and context of Self Determination Theory (SDT). It also introduced how the studies undertaken for this thesis related to the various SDT dimensions. This chapter begins by overviewing the methodology, samples and general procedure. It then provides an outline of each of the research articles and also overviews each of the particular studies samples, measures and outcomes.

General methodology

In general, the thesis takes a quantitative approach with each of the research articles using a quantitative method. However, the type of quantitative method used in the studies differs over the seven articles (see table 2 for a summary). This chapter will also specifically relate to the respective research article and its methodology.

Samples

In total, five different samples were used in order to test the effects of the SDT dimensions towards leaders' wellbeing. The five samples were (1) junior leaders, (2) senior leaders, (3) CEOs, (4) entrepreneurs and (5) employees (followers of leaders). The surveys were identical for samples one, two and five (refer appendices 1 and 2), whilst the surveys used in samples three and four differed

slightly. Sample three – CEOs – had four outcomes removed after pretesting, where results showed that the survey was too long and a potential impediment to response rates (refer appendices 3 and 4). Sample four (entrepreneurs) was carried out in conjunction with my supervisors' research project, and consequently I had limited space available on the survey form. However, the inclusion of sample four added to the overall project by adding generalisability. This extended the findings applicability but sample four is utilized only in chapter five.

General procedure

Samples one to four had two-wave surveys. The first wave, survey one, consisted of control and predictor variables. This was followed by the second wave (two weeks to one month later, depending on the sample) with survey two, which contained the outcome variables. The exact time differences and survey items are outlined for each of the samples (one-five) in the subsequent sections of this chapter. However, a factor which influenced the procedure for sample five was the resistance I encountered from managers with regards to their employees completing a two-wave survey. Originally, I aimed to do a similar two-wave design as used in all other studies. However, managers were concerned about the time commitment required for a two-wave survey, and it was therefore replaced with a single survey. See Table 2 for a summary of organisations, surveys, samples, and methods.

Specific sample details

The samples within this thesis came from a wide range of industries and organisations, and these included junior, senior, and CEO leaders. In order to extend the generalisation of findings I also collected additional information from

employees and entrepreneurs. The following section outlines the samples used in this study.

Sample one: junior leaders

In sample one, data were collected from 150 organisations, spread across wide regional locations in New Zealand. Surveys included a cover letter outlining the survey and its overall aims, and surveys were hand delivered and collected by the researcher. Junior leaders were the target of this survey, and a question was included in the front of the survey to confirm they were in a position of authority (supervisor or manager). Respondents were told that the survey was specifically targeted at non-senior management and this was confirmed by the question “Please confirm your role is NOT Senior Management?” and this was answered “yes/no”. In this data collection phase, no respondents replied they were senior managers and thus all data was retained. In total, 300 surveys were distributed (two surveys per organisation).

Data collection was undertaken in two waves, with a two week gap between surveys to minimise issues of common method variance, with surveys matched by a unique employee response code. Survey one contained demographic details and the SDT dimensions (predictor variables), while survey two contained all the outcome measures. A total of 202 matched surveys were returned, giving a response rate of 67%. The participants were 33.3 years old on average (SD=12.4 years), male (52%), single (55%), non-parents (60%), and non-union members (90%). Respondents worked 35.0 hours per week (SD=12.0 hours) and had job tenure of 4.1 years (SD=5.0 years), with 35.4% holding a high school qualification, 19.6% a technical college qualification, 32.8% a university degree,

and 12.2% a postgraduate qualification. By industry: 64.9% were in the private sector, 30.9% the public sector, and 4.1% the not-for-profit sector. By ethnicity: 60.3% were New Zealand Europeans, 25.1% Asian, 8% Maori, 1% Pasifika, 2.5% Indian and 3% other.

Sample two: senior leaders

In sample two, data were collected from 150 organisations, spread across wide regional locations in New Zealand. These organisations included a 20% overlap (50 organisations) with sample one. Larger sized organisations were targeted for senior leaders, who were the focus of this group. Surveys included a cover letter outlining the survey and its overall aims, and surveys were hand delivered and collected by the researcher. A question was included in the front of the survey to confirm respondents were senior leaders. Respondents were told that the survey was specifically targeted at senior management and this was confirmed by the question “Please confirm your role is Senior Management?” and this was answered “yes/no”. One respondent failed to confirm his or her senior management status and this response was removed from the study. In total, 300 surveys were distributed (two surveys per organisation).

Data collection was identical to study one; that is, undertaken in two waves with a two week gap between surveys to eliminate issues of common method variance, with surveys matched by a unique employee code. Survey 1 contained demographic details and the SDT dimensions (predictor variables), while survey 2 contained all the outcome measures. A total of 184 matched surveys were returned, giving a response rate of 61%. The participants were 41.9 years old on average (SD=12.4 years), male (64%), married (74%), parents (70%),

and non-union members (88%). Respondents worked 45.1 hours per week (SD=13.0 hours) and had job tenure of 7.4 years (SD=7.6 years), with 26.8% holding a high school qualifications, 26.8% a technical college qualification, 34.5% a university degree, and 11.9% a postgraduate qualification. By industry: 64.0% were in the private sector, 27.4% the public sector, and 8.6% the not-for-profit sector. By ethnicity: 65.4% were New Zealand Europeans, 20.9% Asian, 8.8% Maori 1.1%, Pasifika, and 3.8% Indian.

Sample three: CEOs

In sample three, data were collected from CEOs in an endeavor to expand the test of SDT dimensions towards the highest echelons of organisational leaders. A database was purchased from New Zealand Post which included CEOs from larger sized organisations (those with a minimum of 50 employees) from all over New Zealand. In total, 1365 surveys were mailed out to CEOs, with personalised details (e.g. name, titles). Pilot tests were conducted with three CEOs to ascertain their views towards the surveys, and feedback raised issues regarding the size of the two surveys. Consequently, survey 2 was shortened by removing some items viewed less appropriate for CEOs.

As an incentive for participation, CEOs were advised that they would receive a feedback report if they completed both surveys. This report gives CEOs their individual ratings for responses, an average of CEO ratings, and an outline of what the outcomes could mean for them personally. Examples of the letter to CEOs asking them to participate, and of the subsequent feedback given to CEOs, are attached at the end of this thesis in appendices 5 and 6 respectively. Of the 1365 copies of survey one mailed out, 267 completed surveys were returned.

Seventy-five surveys were returned uncompleted where the CEO was on long leave, had left their position or were unable to participate.

For sample three, as for sample one and two, data collection was undertaken in two waves, with a one month gap between surveys to eliminate issues of common method variance. Surveys matched by a unique employee response code. Survey 1 contained demographic details and the SDT dimensions (predictor variables), and survey 2 contained all the outcome measures (albeit slightly reduced in number). The change from a two week to one month gap between surveys was due to the time required to tailor the CEO surveys and mail them out and reflected the greater time required by CEOs to complete the survey (garnered from the pilot testing). A total of 205 matched surveys were finally returned, for an overall response rate of 15.9%. Although this response rate is much lower than samples one and two it aligns with other New Zealand studies undertaken at the CEO level. Both Guthrie (2001) and Gibb and Haar (2010) achieved response rates that are comparable. The latter achieved an 18.2% response rate, while targeting CEOs and senior managers. Moreover, in both these other New Zealand studies, respondents had only one survey to complete and not two as in the present study. As such, the response rate, while low, is still useful, especially given the limited number of studies based on CEO data.

The participants were 51.3 years old on average ($SD=7.5$ years), male (92%), married (96%), and parents (91%). Respondents worked 54.2 hours per week ($SD=8.2$ hours) and had job tenure of 7.4 years ($SD=7.5$ years), with 13.6% holding a high school qualification, 10.6% a technical college qualification, 36.9% a university degree, and 38.9% a postgraduate qualification. By industry:

60.4% were in the private sector, 31.5% the public sector, and 8.1% the not-for-profit sector.

Sample four: entrepreneurs

In order to gain further understanding of SDT towards leaders' wellbeing, and to provide unique comparison data, I was able to use certain dimensions of SDT from the original survey for junior and senior leaders in sample four, in order to survey entrepreneurs (those who started and/or now manage their own organisations). The opportunity to survey entrepreneurs arose from being able to collaborate with another research project's data collection. I was able to collect data from entrepreneurs working within a range of industries and sectors in wide regional locations in New Zealand. As with all the surveys in this thesis, data collection was undertaken in two waves with a two week gap between surveys to eliminate issues of common method variance, and surveys were matched by a unique entrepreneur code. Survey 1 contained demographic details and the SDT dimension of mindfulness (predictor variable), while survey 2 contained all the outcome measures. Surveys were distributed to 200 entrepreneurs and 107 completed and returned both surveys (53.5% response rate).

Entrepreneur respondents were 43.2 years of age on average, (SD=12.0 years), male (56%), married (81%), and parents (72%). Entrepreneurs worked 45.9 hours per week (SD=14.4 hours) and had business tenure of 10.1 years (SD=9.7 years), with 32.3% having a high school qualification, 23.7% a technical college qualification, 33.3% a bachelor's degree and 10.8% a postgraduate qualification. By industry: 83.5% of respondents were in the private sector and 16.5% public sector.

Sample five: employees (followers)

This phase of research was undertaken at the same time as junior/senior leaders' data collection. During this collection phase, permission was sought from leaders to survey their employees (followers) and there was a minimum requirement of two followers in any team. Those leaders who gave their permission were given up to five surveys to distribute to their followers. I collected the completed surveys. Of the 386 junior and senior leader respondents, 199 (51.6%) leaders allowed data to be collected from their followers/employees.

From the 199 team leaders participating, 457 employee/follower surveys were returned. The average tenure the followers had, under their current leader, was 21.6 months ($SD=26.2$). Overall, respondents were mainly from the private sector, (62.2%) public sector (31.1%), and 6.7% from the not-for-profit sector. This data was analysed at both the individual employee level, and aggregated at the team level of analysis.

Employee Team Level analyses

Team level perceptions of autonomy support (PAS) is explored in chapter four and the entire sample of 457 employees, nested within their 199 teams, was used. The use of employee surveys was analysed at the team level, which involves team level *agreement* on ratings. As such, team agreement/consensus of the ratings is required for analysis (for in depth discussion on this issue, see chapter four: Team PAS and job outcomes).

Leader-Follower Team analysis

In chapter five, leaders and followers are explored as a subset of the full sample noted above; this is because there was significant missing data between both leaders and followers (for example three needs measures not answered). A final analysis was conducted on only 160 leaders and their 368 employees (followers) owing to issues around the quality of aggregated measures.

Questionnaires and variables

A copy of the questionnaire used in this thesis is attached (appendices 1- 4). A list of the variables used is provided in the respective chapters. However, in the metamodel paper (chapter nine), I have used global measures of aspirations and motivations, rather than the seven and six dimensions respectively. A global measure is calculated for the positive and then again for the negative dimensions of each SDT measure. The rationale for this calculation is provided in the review of chapter nine, and it is based on accepted practice in the SDT literature. This was considered necessary, otherwise the metamodel would have included 17 predictors, 1 moderator and 17 interaction variables.

Table 2: Overview of Thesis Samples and Details

Chapter/ Study	Sample Details	Sample Size							Method
		Junior Leaders	Senior Leaders	Junior & Senior Leaders	CEOs	Entrepreneurs	Employees	Teams**	
Aspirations	a			386‡					Structural Equation Modeling (SEM)
Motivations	a			386‡	205				SEM
Mindfulness	b, c, d	202*	184*		205	107			Regression
PAS	a						457	199	SEM
Three Needs	a						368	160	MiwiN(multilevel)
Work-Family to Three Needs	a			418‡‡					Moderated Regression
Metamodel	a			386‡					Moderated Regression

Note. a=250 organisations surveyed and 600 surveys distributed. b=150 organisations surveyed and 300 surveys distributed (to junior leaders) and 150 organisations surveyed and 300 surveys distributed (to senior leaders). The 300 organisations overlap on 50 instances. c=1365 organisations surveyed (CEOs). d=200 businesses surveyed (entrepreneurs). ‡= t-tests were run on all studies. Aspirations and Motivations studies found no significant differences between junior and senior leaders on these dimensions. Hence, the Aspirations, Motivations and metamodel studies have a combined sample of junior and senior leaders (n= 386). *=t-tests found differences in levels (junior and senior leaders); hence they separated for this study. ‡‡= based on survey one data only. **= based on employee surveys, aggregated at team level.

Overview of research articles and study explanations

To this point, I have focused on the general methodology, samples and differences in scales used. The following section is a brief overview of the seven research studies undertaken and research articles produced to test the role of SDT towards leaders' wellbeing.

Study One - Leaders' life aspirations and job burnout: A Self Determination Theory approach

Study one specifically investigated leaders' aspirations. The following section overviews the study's rationale, design and sample. It summarises the contribution to literature, overviews the hypothesised model and concludes with the study's current publication status.

Rationale

The purpose of this paper was to explore the implications of leaders' life goals on their job burnout. As outlined in the previous chapter, SDT purports aspirations (life goals) pursued in terms of personal growth, health, affiliation and community, support psychological wellbeing; whereas aspirations of wealth, image and fame thwart wellbeing. However, within the workplace little is understood about the influence that leaders' life goals have on their job burnout. Therefore, this study had two major contributions: (1) the full range of aspirations was investigated, including health aspirations, which are often overlooked in SDT research generally; and (2) for the first time, the implications of aspirations on leaders' wellbeing were specifically investigated.

Design and sample

This research combined the junior and senior leaders' samples, resulting in a total of 386 leaders who completed both survey 1 and 2. T-tests confirmed that these two samples (junior and senior leaders) were significantly similar on the aspirations dimensions, hence both samples (1 and 2) were analysed together. SEM was used for analysis of this data as it provides superior analysis of information that has a number of dimensions. As all the seven dimensions of aspirations were run towards the two outcome variables that made up the main components of job burnout (emotional exhaustion and cynicism), SEM was deemed an appropriate statistical analysis tool. Refer to figure 5 (page 65) for the hypothesised model.

Contribution to literature

Overall, as hypothesised, study one showed that all extrinsic aspirations correlated positively with job burnout, while the intrinsic aspirations were mainly negatively correlated to burnout. Of particular interest was the finding that health aspirations were particularly important in buffering the burnout of leaders. Along with the actual testing of the multiple dimensions of SDT aspirations on leaders, the health finding presented another finding that was novel for SDT and leaders' wellbeing. This is because many studies on SDT aspirations (even in clinical settings) do not include health, whereas positive health is increasingly featured in positive leadership literature (Little, Simmons, & Nelson, 2007). Therefore, the findings add to the discussion around the link between enhancing psychological health, physical health and leaders' wellbeing. The paper, in its entirety, with associated literature review, is presented in chapter three, and it suggests that, overall,

intrinsic aspirations, particularly health, are beneficial to leaders' wellbeing, and a focus on extrinsic aspirations, such as money and fame, are more detrimental than beneficial (being positively related to leaders' burnout).

Publication status

The status of my publications related to study one is as follows:

Roche, M. A., & Haar, J. M. (*in press*). Leaders' life aspirations and job burnout:

A self-determination theory approach, *Journal of Leadership and Organisation Studies*. [ABDC List Ranked B].

An earlier version of this paper (full paper and peer reviewed) was presented at the following conference:

Roche, M. A., & Haar, J. M. (2011, May). *Leader aspirations and job burnout: A study of New Zealand managers*. Community, Work and Family IV International Conference, Tampere, Finland.

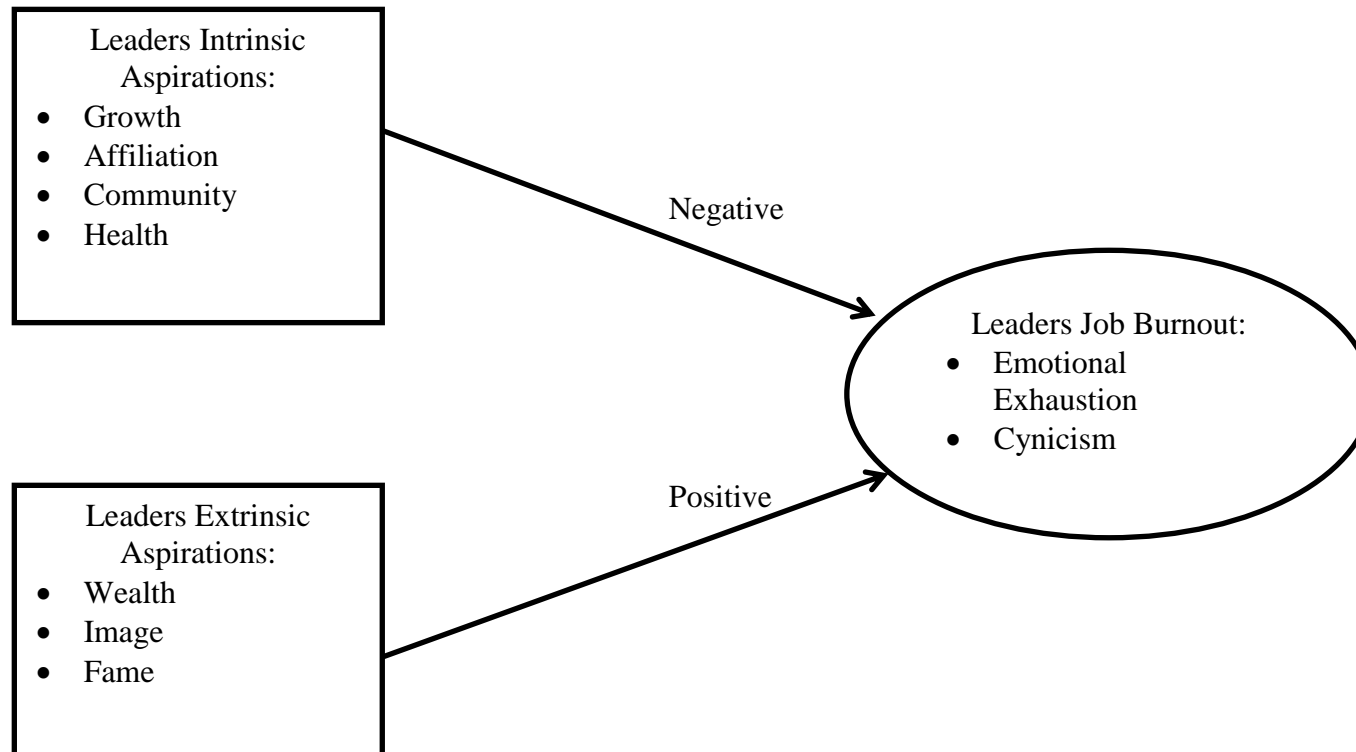


Figure 5: The Hypothesised Model Intrinsic and Extrinsic Aspirations Towards Leaders' Job Burnout.

Study Two - Self-Determination Theory motivations to job satisfaction: The mediating role of work-family enrichment

Study two specifically investigated leaders' motivations. The following sections overview the study's rationale, design and sample, summarise the contribution to literature, overview the hypothesised model and concludes with the study's current publication status.

Rationale

This study extended the literature on leaders' self-determined motivations at work. The differing dimensions (see chapter four for a full review) and ambiguous terminology used make SDT dimensions a complex area to research and study. With study two, I sought to extend the literature by testing all six dimensions of motivation, following closely the SDT theoretical basis as outlined by Ryan and Deci (2000). As outlined in chapter four, SDT broadly describes motivation as "self-determining", (including intrinsic, integrated and identified forms of motivation); or "non-self determining" (including introjected, external and amotivation). The motivation dimensions of SDT, generally, are the most understood in research (Gagne & Deci, 2005). However, this study sought to overcome limitations in the SDT motivation literature, by using all six dimensions of motivation, and extending these six motivation dimensions towards leaders' job satisfaction.

Furthermore, since, in SDT, motivation is the most used dimension within the work place (albeit used inconsistently), this study added to the understanding of the motivation-job satisfaction literature by investigating the role of work-family and family-work enrichment on leaders' job satisfaction, and the

relationship it may play with SDT motivations (i.e. mediating effects). This was due to theoretical and meta-analytical links between job satisfaction and enrichment. This is further outlined in the research article.

Finally, this paper provided a more comprehensive understanding and generalisability of the leaders' motivation to job-satisfaction relationship by comparing motivational differences between junior/senior leaders and CEOs. Hence, this study had three contributions: (1) all six dimensions of SDT were undertaken, (2) work-family enrichment was investigated as to the role it played in leaders' job satisfaction, specifically as mediating the motivation-job satisfaction relationship, and (3) two separate samples of leaders were investigated.

Design and sample

Two studies were undertaken to assess the general hypothesis that self-determined motivations would aid leaders' job satisfaction, and that, potentially, the positive aspects of the work family interface may play a mediation role in this. Study one was a combined junior and senior leader sample of 386 leaders. Independent t-tests confirmed that motivations were not significantly different for junior and senior leaders, and, as such, these samples were combined for analysis. Study two was based on the CEO survey with 205 matched surveys. SEM was used in this study to analyse the data, which is especially useful for mediation analysis. The basic hypotheses are outlined in figure 6 (page 71).

Contribution to research

Most relevant to SDT, was the finding that all three positive forms of motivation (self-determined) were important in understanding the SDT motivations to job

satisfaction relationship. Notably, integrated motivation, which has not been used previously in workplace research, was important for both samples of leaders and especially significant for CEOs, suggesting that CEOs who are able to integrate their values holistically have greater job satisfaction. Identified motivation was more important for junior/senior leaders than integrated motivation, suggesting that for more junior level leaders, being able to identify with the values of the organisation or activity was important for job satisfaction. As such, finding different levels of leaders achieve job satisfaction through values, though this is differentially achieved (identified v integrated) depending on leadership level.

An interesting and comparative finding to the existing literature on SDT motivations was that of introjected motivation. This type of motivation has been used before in workplace samples (that is, studies within the military). However, I found it less useful in explaining leaders' job satisfaction, as it had no influence on job satisfaction for either sample. Overall, this study showed that New Zealand leaders are not motivated towards job satisfaction through ego-enhancing motivations.

Mediation analysis in this study also aided the understanding of leaders' job satisfaction-motivation relationship. By taking the outcomes of this research and comparing its influence on two categories of leaders, junior/senior leaders versus CEOs, differences became apparent. In the sample of 386 junior/senior leaders, self-determining motivation did not directly influence job satisfaction; instead it worked through work-family and family work enrichment, which were both subsequently positively related to job satisfaction. Hence, the work family interface fully mediated the relationship between SDT motivations and job satisfaction. However, the non-self determining dimensions of SDT motivations,

negatively related directly to job satisfaction, and indirectly related to enrichment. In study two (CEOs), self-determined forms of motivation were positively related to job satisfaction as well as to work-family and family-work enrichment. However, only work-family enrichment was positively related to job satisfaction. As with study one, the non-self-determined SDT motivations were negatively related: directly, to job satisfaction; and indirectly related to enrichment. Overall, partial mediation was supported by work-family enrichment for both samples (junior/senior leaders and CEOs). The basic hypotheses are outlined in figure 6.

In summary, the findings are significant for SDT and leaders' wellbeing. Firstly, using all six dimensions of motivation, the research found differences in leadership levels, in terms of motivation towards job satisfaction. Secondly, it found that leaders' whole lives (i.e. the work family interface) also have a significant bearing on leaders' job satisfaction. As such, this study showed that the influence of motivations on the job satisfaction of junior and senior leaders and CEOs differs slightly with regards to the SDT dimension most influential to that sample. It further demonstrated that this relationship is also better understood through including work-family enrichment, which was a previously untested relationship. The paper, including a literature review and full findings, is presented in chapter four.

Publication status

The status of my publications related to study two is as follows:

Roche, M. A., & Haar, J. M. (under review). Motivations, work-family enrichment and job satisfaction: An indirect effects model. *Human Resource Management Journal* [ABDC List Ranked A].

Versions of this paper (full paper and peer reviewed) have been accepted or presented at the following conference/s:

Roche, M. A., & Haar, J. M. (forthcoming). *Motivations, work-family enrichment and job satisfaction: A two study sample of CEOs and junior/senior leaders*. Australia and New Zealand Academy of Management, Perth, Australia, 7-10 December 2012.

Roche, M. A., & Haar, J. M. (2011, May). *Motivations, work-family enrichment and job satisfaction: An indirect effects model*. Paper presented at Community, Work and Family IV International Conference, Tampere, Finland.

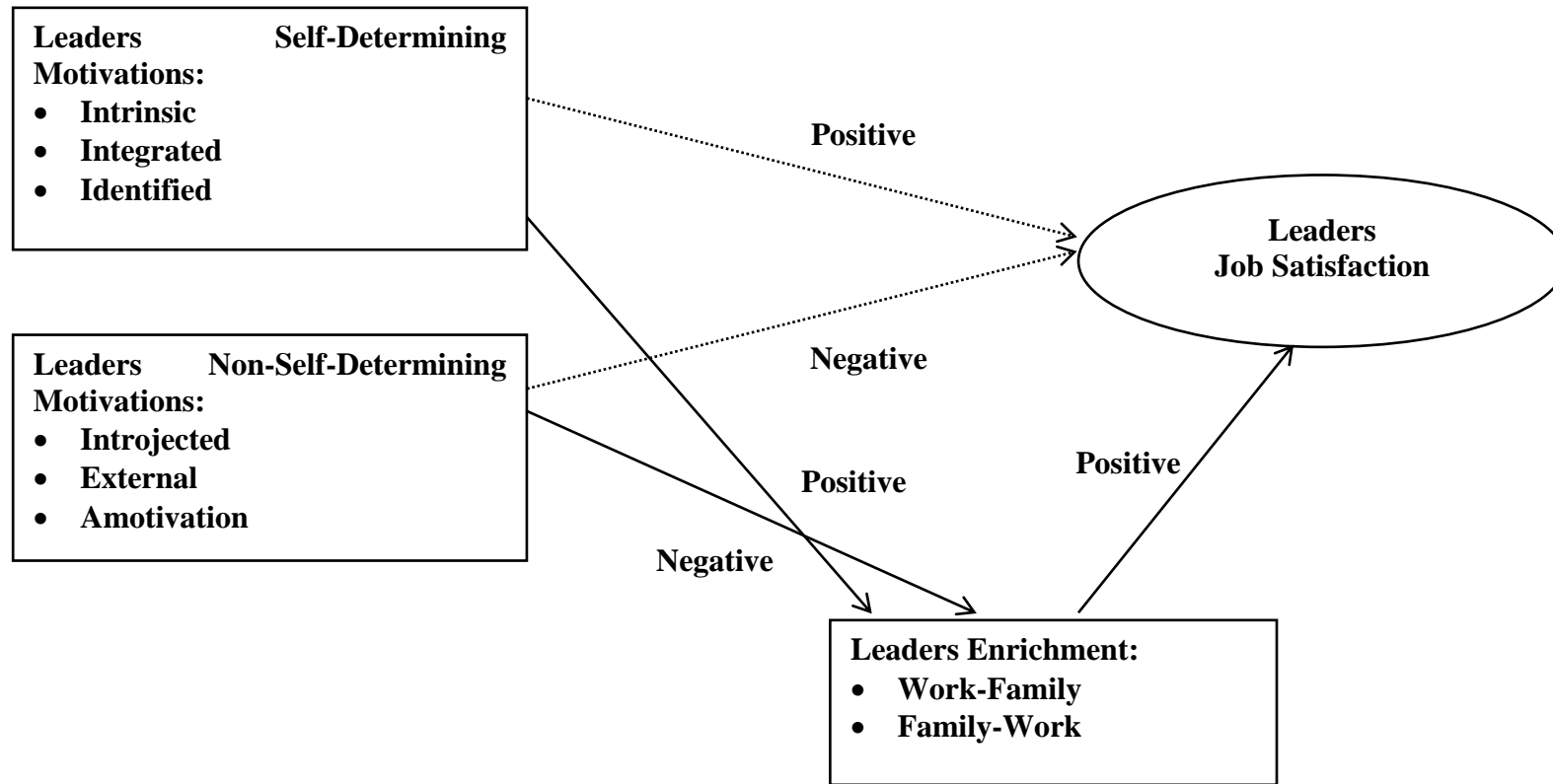


Figure 6: The Hypothesised Model for Leaders' Motivation. Enrichment is shown as the Mediator.

Study Three - Responding to the pressure: The role of mindfulness and psychological capital on the well-being of organizational leaders

Study three specifically investigated leaders' mindfulness. Each of the following sections overviews the study rationale, design and sample, summarises the contribution to literature, overviews the hypothesised model and concludes with the study's current publication status.

Rationale

In recent years, the dimension of mindfulness has been added to the SDT meta-theory (Ryan, Huta, & Deci, 2008). Mindfulness refers to the ability to focus on the present without ruminating on past events or projecting outcomes from unknown future events. As such, mindfulness has a role in self-regulation and psychological autonomy (Brown & Ryan, 2003). Mindfulness has a long clinical history of enhancing emotional stability, stress reduction and enhanced life satisfaction. However, workplace research on mindfulness from an Eastern perspective, which centres on present mindedness, is limited, even though increasing theoretical research has called for a greater understanding of the role of mindfulness in the workplace (Weinstein & Ryan, 2011; Glomb, Duffy, Bono, & Yang, 2011). As mindfulness has a role in cushioning ill-being, this study undertook a comprehensive analysis of the role that mindfulness may play in reducing leaders' stress and ill-being over four leadership levels (as outlined in this section).

Furthermore, a related positive leadership construct, *psychological capital* (PsyCap), has been widely used in leadership settings towards understanding leader wellbeing (Youssef & Luthans, 2012). This study extended research on mindfulness and sought to explore whether mindfulness and PsyCap were distinct

in their ability to buffer ill-being. As such, this study had three aims: (1) to assess the role of mindfulness in enhancing well-being, (2) to compare the role of mindfulness in cushioning ill-being across leadership levels, and (3) to assess mindfulness' role and contribution towards buffering ill-being over and above that of psychological capital.

Design and sample

Four samples were used to assess mindfulness across various leadership levels: (1) 202 junior leaders, (2) 184 senior leaders, (3) 205 CEOs, and (4) 107 entrepreneurs. Hence this study extended the understanding of mindfulness across junior, senior, and CEO leaders. It is noted that *t*-test analysis found significant differences in junior and senior leaders' mindfulness; hence they were separated out for analysis. I also extended the research to include entrepreneurs, as they share many common, yet distinct, characteristics with leaders. This provided for greater generalisability of findings.

The study undertook different outcome variables across the four studies so as to enhance understanding of the role of mindfulness in buffering ill-health. As such, anxiety, depression, negative affect, emotional exhaustion and cynicism were spread over the four studies. Hierarchical regression analysis was used to analyse the data in all four samples. See figure 7 (page 76) for the general hypothesis.

Contribution to research

Across all four studies, mindfulness was found to be important and negatively related to ill-being over the four samples: junior and senior leaders (studies 1 and 2 respectively) reported less anxiety, depression and negative affect, whilst CEOs

(study 3) reported less anxiety and depression. Study 4 (entrepreneurs), showed that the benefits of mindfulness for mental health also extended towards emotional exhaustion and cynicism. Further analysis on the data also showed that those in CEO positions reported higher levels of mindfulness than other leadership levels. Importantly, this was previously unknown and opened discussion on further research into mindfulness and leadership development.

The full paper, with literature review and in-depth discussion of findings, is presented in chapter five, and suggests that, overall, mindfulness aided in the reduction of ill-being for leaders over all samples and studies. This was previously unknown and as such is a new contribution to the leadership and mindfulness literature. Furthermore, PsyCap also played a role in leaders' wellbeing (as predicted), although the benefits of mindfulness were shown to be over and above that of PsyCap. As such, mindfulness was found to be a unique predictor of wellbeing across a number of samples and studies and this is the first research of its kind, covering such an analysis.

Publication status

The status of my publications related to study three is as follows:

Roche, M. A., Haar, J. M., & Luthans, F. (under review). Responding to the pressure: The role of mindfulness and psychological capital on the well-being of organisational leaders. *Journal of Occupational Health Psychology*. [ABDC List Ranked A].

Earlier versions of this paper (full paper and peer reviewed) have been accepted in, or were presented at, the following conferences:

- Roche, M. A., Haar, J.H. & Luthans, F. (forthcoming). *Mindfulness, psychological capital, and well-being: A four study sample of organizational leaders*. Australia and New Zealand Academy of Management, Perth, Australia, 7-10 December, 2012.
- Roche, M. A., & Haar, J.H. (2012, August). *Eastern mindfulness, psychological capital and leaders' mental health: A multi-sample effects study*. Paper presented at the Academy of Management Conference, Boston, MA.
- Roche, M. A., & Haar, J. M. (2011, November). *Mindfulness and moods: A three way study of New Zealand leaders*. Paper presented at the New Zealand Positive Psychology Conference, Auckland, New Zealand.

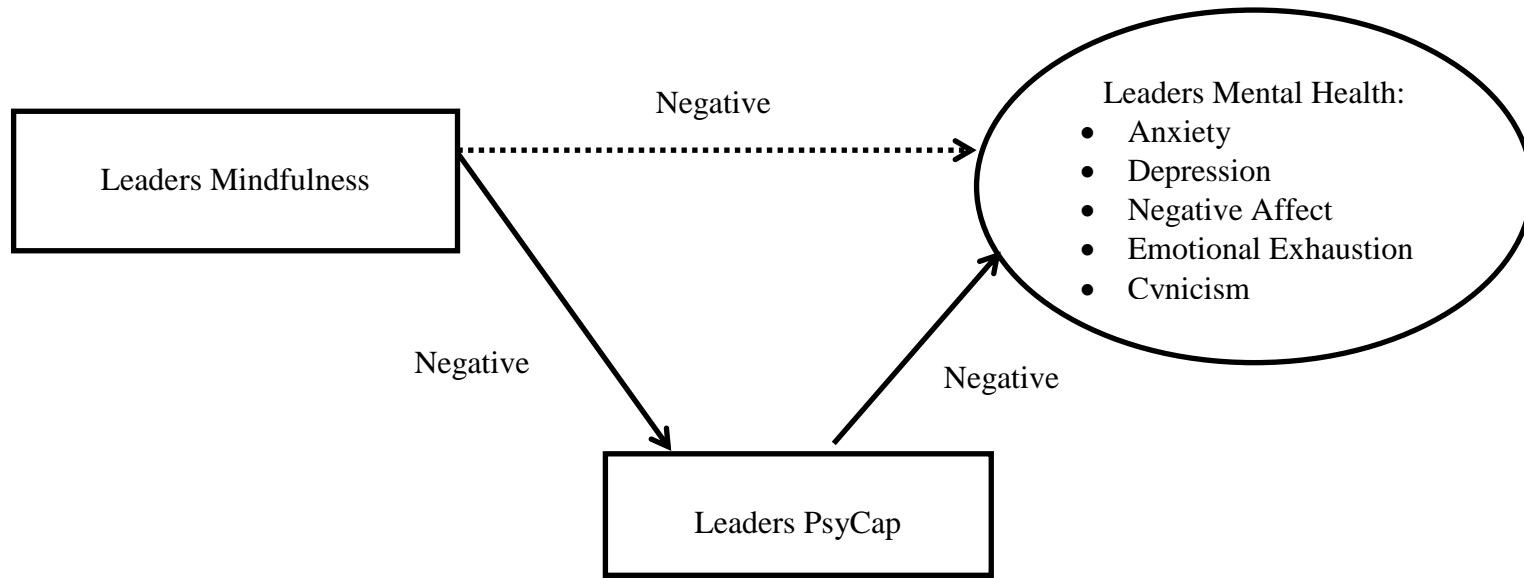


Figure 7: The General Hypothesised Model for Leaders' Mindfulness. Psychological Capital is shown as the Mediator.

Study Four - Team level perceptions of autonomy support and job outcomes: A mediation study

Study four specifically investigated perceptions of autonomy support. The following sections overview the study's rationale, design and sample, summarise the contribution to literature, overview the hypothesised model and concludes with the study's current publication status.

Rationale

SDT asserts that autonomy supportive environments, termed Perceived Autonomy Support (PAS), enhance wellbeing. This dimension of SDT is particularly concerned with the context within which we work and live. Contexts that support a person's autonomy, that provide non-controlling, growth promoting and autonomy enhancing feedback, are termed autonomy supportive. As such, PAS refers to the perceptions employees have regarding the autonomy they have at work. This conceptualisation of autonomy has to do with psychological autonomy. That is, PAS is not concerned so much with task autonomy, but with the degree of psychological freedom an employee feels as they work towards their goals and objectives. PAS has been investigated within education, sports and family studies as well as having a few theoretical and empirical research studies conducted within workplace research (see Gagne & Deci, 2005). As these workplace studies centred on individual employee level PAS, this study extended PAS literature towards understanding team level perceptions of PAS. I undertook this analysis as leadership of teams is an increasingly important issue, as how teams rate their leaders' abilities to encourage autonomy and support is

fundamental to team functioning. This research, therefore, focused on employees and was calculated at the team level to ensure consensus and agreement between team members' (followers) perceptions of their leaders' abilities to encourage autonomy support.

Furthermore, in this study, job satisfaction was also run as a mediator between PAS and the various job outcomes. This is because within the wellbeing literature, job satisfaction is one of the most common methods of measuring employee happiness. As such, I tested the relationship between PAS and job satisfaction towards other job outcomes. Hence, this study had two major contributions: (1) team level analysis of leaders PAS was undertaken, (2) job satisfaction was used as a mediator between PAS and outcomes to further understanding of the PAS to positive employee outcome relationships.

Design and sample

Data was collected and analysed from 457 surveys making up 199 teams. A minimum threshold of two team members was established, with the highest number of followers being five. The survey had all employees rate their leaders' PAS, and PAS was then analysed at the team level by calculating the averages of PAS (this was done for each team). SEM was then used for analysis, and again, following Williams, Vandenberg and Edwards (2009) the hypothesised model (mediation) was the superior model with a superior fit. For the full range of fit indices, see chapter six. The general hypothesised model is outlined below as figure 8 (page 81).

Contribution to research

The full paper, including a literature review, is presented in chapter six and it suggests that overall, and as hypothesised, Team PAS was important in the influencing of individual employee wellbeing outcomes. I found direct relationships between Team PAS and individual job satisfaction, OCBs and attendance behaviours, while job satisfaction was also positively related to career satisfaction, OCBs and attendance behaviours and negatively related to turnover intentions.

Job satisfaction also played an important role, in that it fully mediated the effect of Team PAS towards career satisfaction and turnover intentions, and partially mediated the effect of Team PAS towards OCBs and attendance behaviours. This suggests that employee behaviour (such as OCBs and attendance behaviours) is more obvious to teams and leaders than the cognitive outcomes such as career satisfaction. Therefore these behavioural outcomes are still directly influenced by PAS, in addition to job satisfaction. However, the influence of PAS for cognitive outcomes, such as career satisfaction, works indirectly through the person's satisfaction with his or her job.

Overall this study contributed to the literature in a number of ways. Team PAS was found to be a significant direct influence on employee outcomes in the expected direction; that is, for the first time the relationships between the leader (via PAS ratings), team members (via consensus of ratings) and individual outcomes have been clarified. I also found that job satisfaction played an important mediating role, which was particularly important in understanding an individual's cognitive outcomes (for example, career satisfaction), while PAS was

directly influential towards employee behavioural outcomes, such as their OCBs. This was previously unknown and, as such, adds to the literature around PAS and how leaders' positive perceptions of autonomy aid in individual wellbeing.

Publication status

The status of my publications related to study four is as follows:

Roche, M. A., & Haar, J. M. (under review). Team level perceptions of autonomy support and job outcomes: A mediation study. *Group and Organization Management*. [ABDC List Ranked A].

An earlier version of this paper (full paper and peer reviewed) was presented at the following conference:

Roche, M. A., & Haar, J. M. (2012, May). *Team perceptions of autonomy support*. Paper presented at the Advances in Organizational Behavior Workshop, Paris, France.

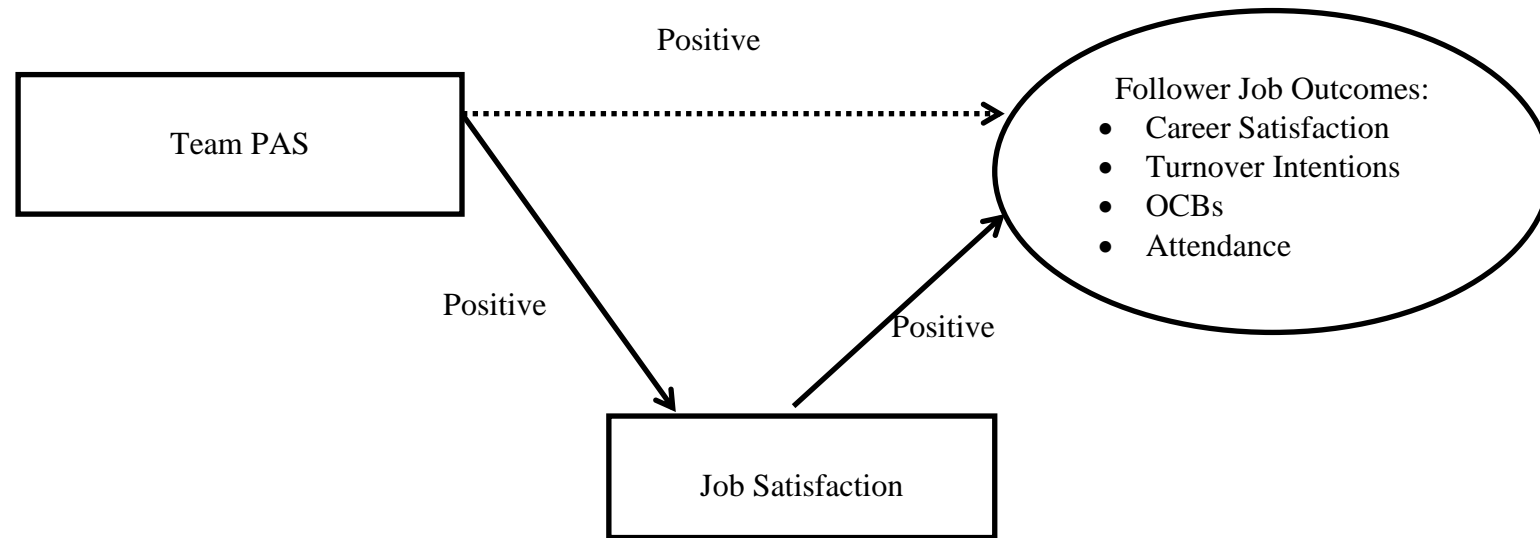


Figure 8: Hypothesised Model of Team Rated PAS Towards Outcomes. Job Satisfaction is shown as the Mediator.

Study Five - Leader to follower wellbeing: A self-determination theory approach

Study five specifically investigated leaders' three needs and the effect of these on followers' wellbeing. The following sections overview the study rationale, design, and sample, summarise the contribution to literature, overview the hypothesised model and concludes with the study's current publication status.

Rationale

SDT asserts that a requirement for optimal functioning is the experiencing of the needs for autonomy, competence, and relatedness. Studies have shown that the ongoing experiencing of these three needs results in a number of positive outcomes for the individual, including life satisfaction, job satisfaction, positive mood and authentic action. This study sought to extend the literature around the three needs by investigating how leaders' three needs may influence employees' three needs and subjective wellbeing.

As little research has focused on the contagion, or transference, of leaders' eudaimonic wellbeing (especially SDT), I extended the literature by exploring the contagion of leaders' three needs towards employees' three needs. I also investigated the influence of three needs towards employees' subjective wellbeing, using team PAS as a mediator, something that had not previously been explored. By doing this, I could gain insight into how team PAS (teams' ratings of their leaders' autonomy support) may also influence and aid employee wellbeing. In summary, I hypothesised that leaders who have their three needs met are likely to have superior wellbeing, and, in turn, the (teams of) employees of these leaders

are likely to assess their leaders as supportive of their autonomy. This leads to employees' own three needs being positively influenced, ultimately influencing employees' subjective wellbeing. This provided for a comprehensive model of wellbeing by extending understanding of how the eudaimonic wellbeing of the leader influences the eudaimonic wellbeing of the follower. Followers' eudaimonic wellbeing was found to influence their hedonic wellbeing (measured as subjective wellbeing). Overall, this paper makes three contributions: (1) assessing, for the first time, the effect of leaders' three needs on follower wellbeing (three needs), (2) understanding the central role of followers' three needs towards their own subjective wellbeing, and (3) providing a model of how leaders' wellbeing influences follower wellbeing (both eudaimonic and hedonic). The path and hypothesis is shown in figure 9.

Design and sample

As I had data from two levels (leaders nested with followers), multilevel analysis using MLwiN programme was conducted (Rashbash, Browne, Healy, Cameron, & Charlton, 2000). A two-level model with 368 followers and 160 leaders was used. Following the methodology, predictor variables were entered at the follower level (that is, Level 1, leader PAS). This was centred to the leader mean and leader level (Level 2) variables (i.e. leader autonomy) were centred to the grand mean. In order to test mediated relationships in multilevel models, I followed the Monte Carlo Method for assessing mediation, as described by Bauer, Preacher, and Gil (2006).

Contribution to research

The full paper, with literature review, is presented in chapter seven, and suggests that overall, the model contributed to the literature in the expected direction. The need for relatedness was superior in its influence towards both team PAS and directly towards employee subjective wellbeing. This paper is the first to fully articulate the importance of leaders' relatedness satisfaction having a direct influence on employee wellbeing. The important role that team PAS played in the contagion model, with PAS influencing individual employee autonomy, competence and relatedness leading onto a positive influence on employee subjective wellbeing, is also of significance. As such, leaders' needs and experiences of relatedness play an important role in employee wellbeing. This paper is a novel and unique contribution to the leadership and SDT literature.

Publication status

The status of my publications related to study five is as follows:

Roche, M. A., & Haar, J. H. (under review). Leader to follower contagion: A self-determination theory approach. *The Leadership Quarterly*. [ABDC List Ranked A*]

An earlier version (full paper, peer reviewed) of this paper was presented at:

Roche, M. A., & Haar, J. H. (2012, May). *Leader to follower contagion: A self-determination theory approach*. Paper presented at the Advances in Organizational Behavior, Paris, France.

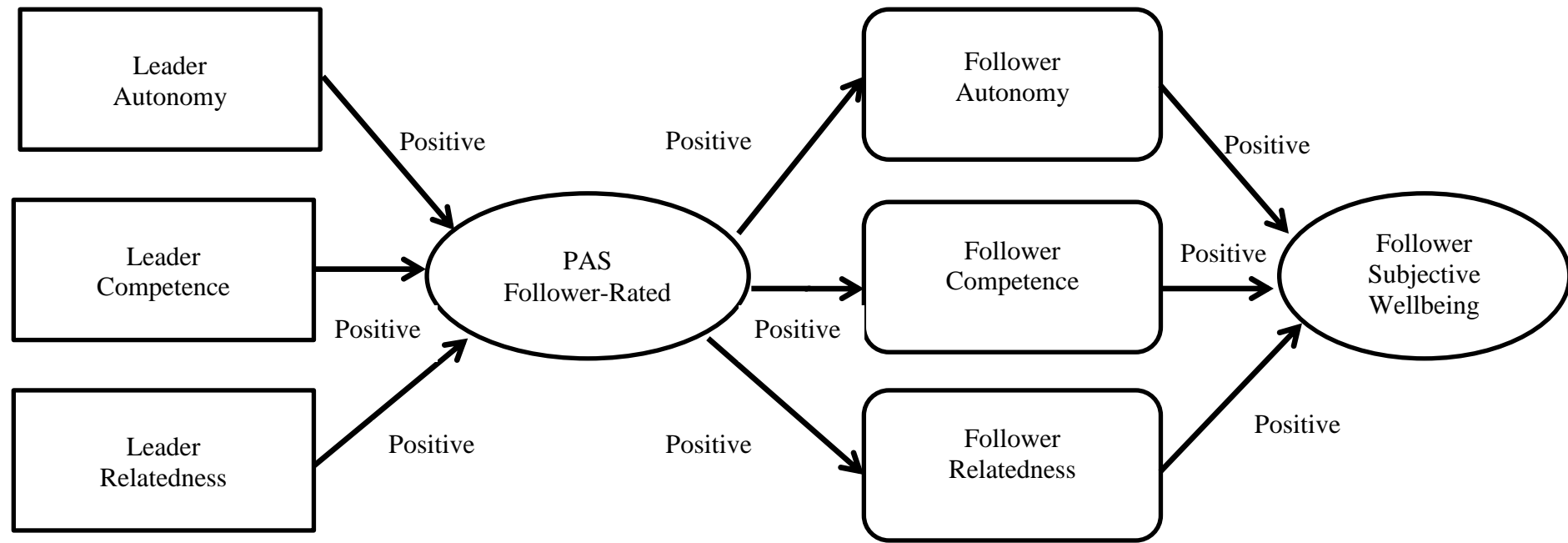


Figure 9: The Hypothesised Model showing Leaders' Three Needs, Follower Rated PAS and Follower Wellbeing.

Study Six - Work-family interface predicting needs satisfaction: The benefits for senior management

Study six specifically investigated how the work-family interface predicted leaders' three needs. The following sections overview the study rationale, design, and sample, summarise the contribution to literature, overview the hypothesised model and concludes with the study's current publication status.

Rationale

Drawing from work-family literature, the basic premise of this study was to test whether work-family conflict was detrimental to leaders' needs for autonomy, competence and relatedness, and if work-family enrichment was positively related to leaders' needs for autonomy, competence, and relatedness. In this sense the leaders' three needs became the *outcome* of the study. This is because SDT three needs are seen as unifying outcomes from the environment within which we live. As such, this paper extended the literature on three needs by examining the relationship between leaders' work-family interface and needs satisfaction.

In addition, I examined whether the three needs was different for different level leaders by using leadership position as a moderator variable with the work and family interface variables. This allowed for a better insight into how leaders at junior and senior leadership levels may differ in their ability to experience wellbeing through work and family roles. Hence this study had two contributions: (1) extended the implications of the work family interface on leaders' ability to experience the three needs, and (2) investigated the differences between senior and junior level leaders on three needs satisfaction.

This paper was the first paper I undertook as research towards this thesis. It was a pilot study for the thesis and has been published. However, it is presented as one of the last research articles in this thesis as the three needs are considered a final and integrating function of SDT. Therefore, while this paper represents the earliest work, its contribution is integral to the integrating topic of three needs, and is therefore positioned as the sixth research article within the thesis.

Design and sample

Data from survey one only (junior and senior leaders, n=418) was analysed using hierarchical regression. The 418 surveys were all from survey 1 data and represent an earlier stage of data collection in my thesis, where I sought to explore the data for basic properties to determine whether measures were robust and did what was expected. I ultimately collected more data (that is, matched survey two). As such, although this paper is based on initial data collection and is more exploratory, but it still contributes sufficiently to my PhD on SDT and thus forms part of the thesis. Using hierarchical regression autonomy, competence and relatedness were the dependent variables. Control variables were entered in step one, the work-family dimensions were run separately, first enrichment (step two), and then conflict (step three), in order to gain a clear insight into the differences of leaders' three needs from enrichment and conflict. Finally the moderator variable (leadership position) was entered in step four, with interactions in step five. Mapped significant interactions are outlined in the full paper. Figure 10 demonstrates the hypothesised model.

Contribution to research

Although the model worked in the generally expected direction (conflict was negatively related to three needs and enrichment positively related to three needs), there was variation in the significance of the predictors from the work-family interface. Conflict from both work and home reduced a leader's experience of autonomy, while only conflict from family to work reduced their competence and relatedness. I found that enrichment was positively related to autonomy, although only family-work enrichment was positively related to competence and relatedness. These findings suggest the important role that family has in influencing the ability of leaders to experience the three needs. As such, leaders' whole lives become important in understanding the influences on wellbeing, and this study highlighted this for the first time in both SDT and work family literature.

In addition, the findings also demonstrated that senior leaders have more ability to manage the work family interface, perhaps as a result of their position allowing them greater autonomy. Results from interaction effects found that senior managers reported higher satisfaction of needs than junior managers at all levels of the work family interface. Again this was unknown previously. The full paper, including literature review, is presented in chapter eight.

Publication status

The status of my publications related to study six is as follows:

Roche, M.A., & Haar, J. M. (2010). Work-family interface predicting needs satisfaction: The benefits for senior management. *E-Journal of Social & Behavioural Research in Business*, (1)1, 12-23.

An earlier version of this paper (full paper and peer reviewed) was presented at the following conference:

Roche, M. A., & Haar, J. M. (2010, December). *Work-family conflict and enrichment predicting needs satisfaction: The benefits of senior management*. Australia and New Zealand Academy of Management, Adelaide, Australia.

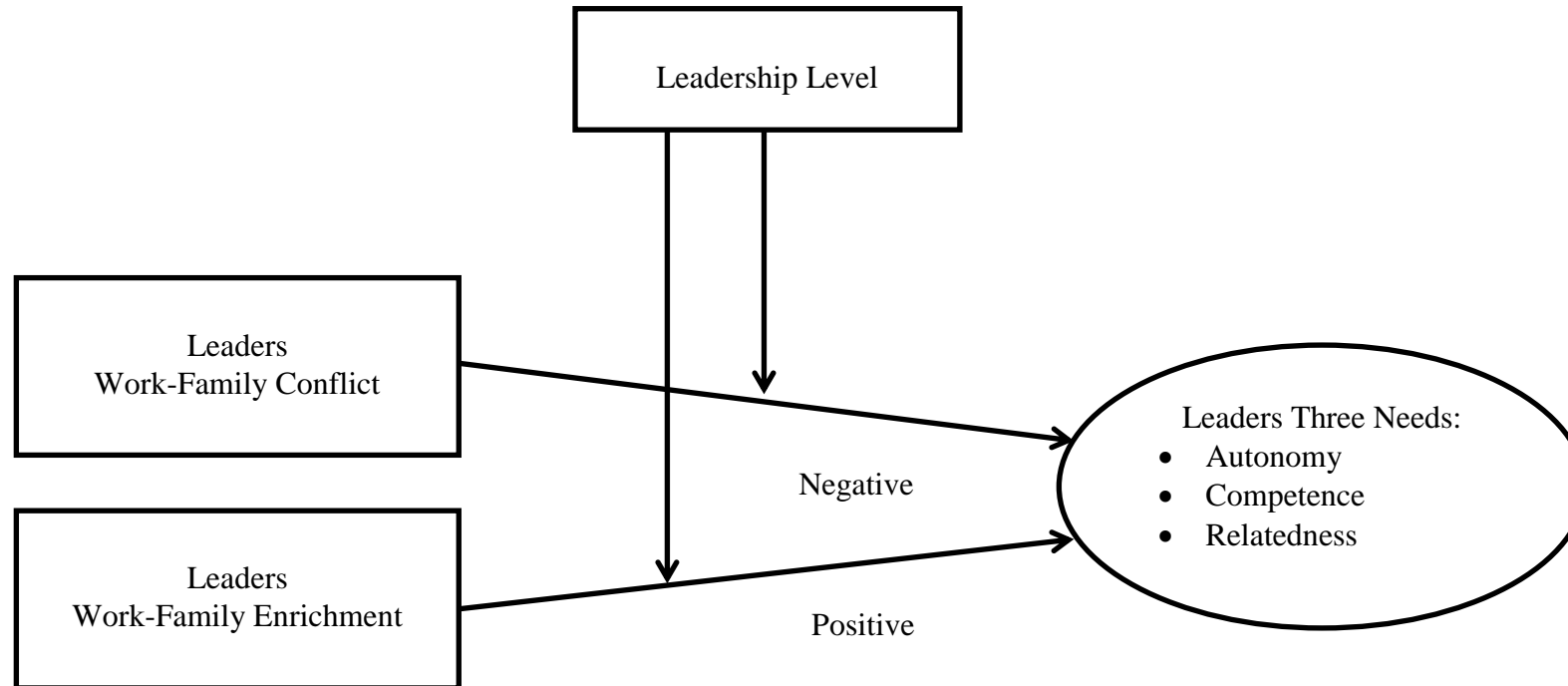


Figure 10: The Hypothesised Model Showing Leaders' Conflict and Enrichment Towards Their Three Needs. Leadership Level is shown as the Moderator.

Study Seven - A metamodel approach towards self determination theory: A study of New Zealand managers' organizational citizenship behaviours

Study seven investigated an entire metamodel of SDT. The following sections overview the study's rationale, design and sample, summarise the contribution to literature, overview the hypothesised model and concludes with the study's current publication status.

Rationale

SDT proposes that individuals who exhibit higher levels of the SDT dimensions will achieve greater wellbeing. However, few research articles include more than one dimension of SDT in their studies, and consequently, the testing of the metamodel is sparse. Indeed, in spite of calls for the metamodel to act as a framework for POB studies (Spritzer, 2006), I could not find *any* articles that had included more than two dimensions. As such, the aim of this research article was to explore, from a leader's perspective, the entire metamodel of SDT with regards to the workplace outcome of organisation citizenship behaviours (OCBs). Therefore, aspirations, motivations, mindfulness, PAS, and the three needs were assessed for their influence on leaders OCBs. This paper's major contribution is empirically testing, for the first time, the entire metamodel of SDT.

Design and sample

The sample was the combined junior and senior leaders' sample of 386 New Zealand managers. Hierarchical regression and the procedure followed in previous studies (see paper one, aspirations) were used. One issue with the metamodel is the number of potential SDT variables: seven aspirations, six motivations, three

needs, one each for mindfulness and PAS. Add the two dimensions of OCBs, and a model with a total of 20 dimensions is created, making it too complex for SEM. In this paper the potential moderating effects of PAS on the other SDT dimensions are also considered and interaction effects again become too complex to model in SEM.

Within this study, for the first time, I used global measures of aspirations and motivations. This approach has been used in the SDT literature (Brown & Kasser, 2005; Blanchard, Tremblay, Mask, & Perras, 2009). This minimised the aspirations and motivations dimensions down to two factors each (basically, to a positive and negative dimension). This also allowed for interactions to be conducted more readily, although this still generated a sizeable eight interactions towards each of the OCB dimensions. The other SDT measures (mindfulness, PAS, and the three needs) followed previous studies. See figure 11 for the hypothesised model.

Contribution to research

Overall, the majority of SDT dimensions were significantly related to OCBs. As such, the highest levels of OCBs were reported by leaders possessing high levels of SDT dimensions and higher PAS. Generally, this research found strong and consistent support for the metamodel influencing leaders OCBs. Furthermore, as PAS was a consistent influence, this research highlighted the importance of leaders' work contexts for their own wellbeing: that is, how leaders perceive *their* leaders as supporting their autonomy is influential in leaders' OCBs. This was also previously unknown. The full paper, including a literature review, (presented

in chapter nine), suggests that overall the metamodel is significant in understanding leaders' wellbeing. As this is possibly the first study to use the SDT metamodel towards leaders' OCBs, this paper represents an original contribution to the SDT and leadership literature.

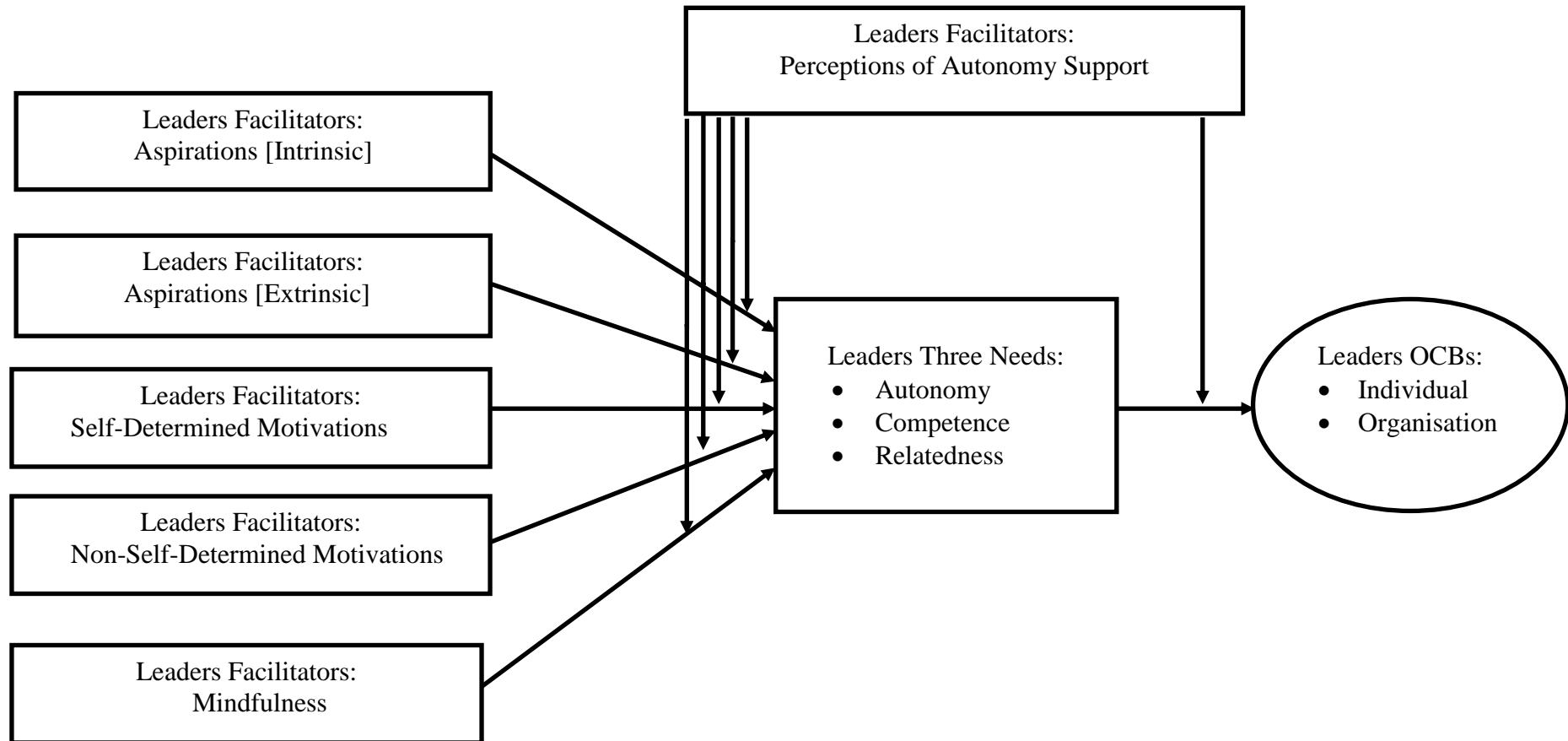


Figure 11: Hypothesised Model - Metamodel

Publication status

The status of my publications related to study seven is as follows:

Roche, M. A., & Haar, J. M. (*in press*). Metamodel approach towards self-determination theory: A study of New Zealand managers' organisational Citizenship Behaviours. *International Journal of Human Resource Management* [ABDC List Ranked A].

An earlier version of this paper (full paper and peer reviewed) was presented at the following conference/s:

Roche, M. A., & Haar, J. M. (2011, August). *Self-determination theory and job outcomes: The moderating effects of perceived autonomous support*. Paper presented at the Academy of Management Conference, Texas.

Roche, M. A., & Haar, J. M. (2011, May). *Towards a comprehensive model of managers' wellbeing: The role of self-determination theory*. Paper presented at the Workshop on Research Advances in Organizational Behavior and Human Resources Management, Paris, France.

Roche, M. A., & Haar, J. M. (2010, November). *Self-determination theory and inter-role performance: The moderating effects of perceived autonomous support*. Paper presented at the 14th Conference on Labour, Employment and Work (LEW), Victoria University of Wellington, Wellington, New Zealand.

Summary

This chapter outlined the samples of leaders, the survey designs, and overviewed the seven separate research studies and associated research articles that were undertaken in order to gain an understanding of SDT towards leaders' wellbeing. Each of the seven studies differentially demonstrates the importance of its particular SDT dimension towards leaders' wellbeing, and towards follower wellbeing (in chapter five). The final study contributes a metamodel approach towards understanding leaders' wellbeing. The following seven chapters are articles that have been referred to in this chapter. They constitute the seven separate studies undertaken to assess SDT towards leaders' wellbeing. The final chapter presents the conclusions.

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CHAPTER 3

ASPIRATIONS

Paper title

A Structural Equation Modelling Approach to Aspirations and Job Burnout: A Study of New Zealand Leaders.

Declaration

I developed the theoretical model for the paper. I instigated data collection in conjunction with the second author (Professor Haar) and I had overall responsibility for the collection of data. I was responsible for data entry and cleaning and the initial statistical analysis for the paper which was done in SPSS and then in SEM with my co-author. I wrote the first full draft of the paper. The theoretical contributions are my own.

My co-author checked the statistical analysis in particular the SEM, and helped with the mediation model tests. He provided feedback on the paper and editing. The final version of the paper was edited by an editor.

Publication status

Roche, M.A., & Haar, J.M. (*in press*). Leaders' life aspirations and job burnout: A self-determination theory approach, *Journal of Leadership and Organisation Studies*. [ABDC List Ranked B].

Please refer to www.emeraldinsight.com

An earlier version of this paper (full paper and peer reviewed) was presented at the following conference:

Conference

Roche, M. A. & Haar, J. M. (2011, May). *Leader aspirations and job burnout: A study of New Zealand managers*. Community, Work and Family IV International Conference, Tampere, Finland

Special note on formatting, language and layout

As the following paper is in press, the layout, referencing and language used are those required by the journal editors.

ABSTRACT

Purpose: The purpose of this paper is to explore the implications of leaders' life goals on their work related wellbeing. Self Determination Theory (SDT) asserts aspirations (life goals) pursued in terms of personal growth, health, affiliation and community support psychological wellbeing, whilst aspirations of wealth, image

and fame thwart wellbeing. However, little is understood about the influence of life goals towards leaders' wellbeing at work, specifically job burnout.

Design: The study explores seven dimensions of aspirations on a sample of 386 New Zealand leaders towards emotional exhaustion and cynicism. Data was collected in two waves (1=predictors and 2=outcomes) and structural equation modeling was used to test the relationships between variables.

Findings: The study found that all extrinsic aspirations were significantly and positively correlated with job burnout, while mainly the intrinsic aspirations were significantly and negatively correlated. The structural model showed that wealth and image aspirations were positively related to emotional exhaustion and cynicism, while health aspirations were negatively related to both outcomes. Finally, relationship aspirations were also negatively related to cynicism.

Implications: This study shows the importance of life goals and the role they play towards leaders' job burnout. Leaders focused on extrinsic aspirations are more likely to burnout at work than those focused on intrinsic aspirations. Hence, what leaders focus on in terms of overall life objectives matter for their workplace wellbeing.

Originality/Value: Findings are significant because, for the first time, relationships between the SDT dimensions associated with (a leader's) life goal orientations and job burnout has been established.

Article Classification: Research paper

Keywords: *leaders, aspirations, self determination theory, job burnout, SEM.*

INTRODUCTION

The call for a greater understanding of leadership motivation has been perpetuated by the current backlash against leaders who have been profiting personally, enhancing their own fame and notoriety and receiving massive payouts while the companies they lead have failed. Kasser, Cohn, Kanner and Ryan (2007) stated the motivation of leaders via financial rewards, self interest and competition not only undermines the psychological wellbeing of leaders, but also the wellbeing of employees, communities and wider society. Hence, as the demand for high quality leaders surges, the ability to grow leaders requires an understanding of leaders' aspirations and the implication of these for leaders' wellbeing. This is important as aspirations can either enhance or detract from leader development and wellbeing (Kasser et al., 2007) and as such they can facilitate or thwart a leader's ability to positively influence others (Skakon, Nielson, Borg and Guzman, 2010; Taris and Scherurs, 2010; Sy, Cote and Saavedra, 2005; Harter, Schmidt, Asplund and Agrawal, 2010; Spreitzer, 2006; Avolio, Walumbwa and Weber, 2009).

Positive leadership scholars, drawing from positive psychology, emphasise how understanding desirable leadership characteristics and behaviours results in enhanced organisational performance, as well as employee wellbeing (Hannah, Woolfolk and Lord, 2009; Cameron, 2008; Avolio and Luthans 2006; Ilies, Morgeson and Nahrgang, 2005; Hart, Conklin and Allen, 2008; Avolio et al., 2009; Wright and Quick, 2009a, 2009b). However, in developing positive leadership, research has focussed on leader character, relationships and meaning

(Cameron, 2008; Hannah and Avolio, in press; Spreitzer, 2006), and little work has focussed on the personal ‘wellbeing resources’ that build and *sustain* positive leaders (Ilies et al., 2005). Not only does the current economic uncertainty and resultant organisational dynamics place pressure on leaders (Maner and Mead, 2010), but as Hannah et al., (2009) suggest, leaders are faced with mounting, unpredictable and conflicting demands that challenge their very sense of self. Related to this is the role of aspirations and wellbeing. Kaplan, Drath and Kofodimos (1991) found those who ascend the hierarchy of leadership, though becoming more outwardly successful, demonstrated a paucity of wellbeing. Alternatively, some studies have found that materialistic values were *not* related to the job and career satisfaction of employees (Deckop, Jurkiewicz and Giacalone, 2010). As such, this means that leaders’ aspirations could fulfil a variety of needs other than financial and ego-enhancing (Warr, 2005), and that this could have positive benefits for leader wellbeing. However, this remains to be fully understood (Kasser et al., 2007).

The present study tests the relationships between leaders’ extrinsic aspirations (wealth, image and fame) and intrinsic aspirations (affiliation, community, growth and health) on leaders’ wellbeing, specifically job burnout, by exploring the two main dimensions of burnout (1) emotional exhaustion and (2) cynicism. Burnout has been found to be a major source of reduced personal and organizational performance (Maslach and Goldberg, 1998). Given the level of complexity and difficulty leaders face in today’s business climate a greater

understanding of the influence of leaders' aspirations on job burnout is warranted. Overall, the paper makes two major contributions: (1) using a Self Determination Theory (SDT) framework to test the full relationship between leaders' intrinsic and extrinsic aspirations towards leaders' job burnout, which have not been tested before; and (2) analysis using structural equation modelling provides strong evidence of the reliability and unique nature of the constructs tested and their influence on job burnout, giving greater confidence in the findings. These findings support the assertion that extrinsic aspirations would be detrimental and be positively related to job burnout, while intrinsic aspirations would be negatively related. Overall, this paper makes contributions towards understanding how leaders' personal life aspirations impact on their wellbeing, and hence, can act as a wellbeing resource for positive leadership, and extends the SDT literature, by testing and empirically supporting the links between the life aspirations and job burnout of leaders.

SELF DETERMINATION THEORY

SDT is a motivation theory based on the premise that people are growth oriented and therefore actively seek opportunities to develop their fullest potential. As such, SDT suggests that humans seek out relationships, connections and challenges that aid humanistic growth and develop the authentic self (Ryan, Huta and Deci, 2008). However, SDT not only takes into account optimal functioning (eudaimonic wellbeing) but also examines malfunctioning (the dark side of personality and behavior) and studies the conditions which stimulate the former or

elicit the latter (Deci and Ryan, 2000). SDT has both theoretical and practical importance in terms of leadership. Individual endeavors of optimal or malfunctioning tendencies in leaders' aspirations will either support or detract from their own growth-orientated potential and their ability to build relationships, both of which are fundamental to leadership success (Iles et al., 2005; Cameron 2008). Moreover, SDT states that optimal performance is enhanced when a person has an abundance of psychological wellbeing (Deci and Ryan, 2000; Ryan et al., 2008; Greguras and Diefendorff, 2009; Vansteenkiste, Neyrinck, Niemiec, Soenens, De Witte and Van den Broeck, 2007; Sheldon and Kasser, 2008; Sheldon and Niemiec, 2006) that is gained via psychological needs fulfillment (Deci and Ryan, 2000).

Psychological needs fulfillment is central to SDT. As a person has their psychological needs for autonomy (psychological freedom), competence (enhancement of one's abilities and skill) and relatedness (meaningful connections with others) met, wellbeing is enhanced. As such, psychological needs fulfillment provides the "framework for integrating findings", such that aspirations and goals either support psychological wellbeing (positive functioning) or thwart psychological wellbeing (by enhancing malfunctioning behavior) (Deci & Ryan, 2000, p. 263)

Hence, SDT asserts that people who pursue aspirations and goals that allow or support their psychological needs will benefit by enhanced wellbeing while those who pursue life aspirations that undermine psychological need

satisfaction will result in enhanced well-being. In short, psychological wellbeing requires a synthesis between needs satisfaction and the goals and aspirations of the individual leaders (Deci, Connell and Ryan, 1989; Vansteenkiste et al., 2007).

ASPIRATIONS

SDT asserts that it is the *nature* of the aspiration that supports or detracts from wellbeing. Ryan, Sheldon, Kasser and Deci, (1996) argue that the pursuit of some goals provides greater satisfaction of psychological wellbeing than the pursuit of others. Aspirations towards personal growth, relationships, community and health enhance wellbeing, whereas those goals pursued in terms of wealth, fame and image undermine wellbeing (Deci and Ryan, 2000, Kasser and Ryan, 1993, 1996; Kasser, Ryan, Couchman, and Sheldon, 2004). Kasser and Ryan, (1993, 1996) distinguished between intrinsic aspirations (growth, affiliation, community contribution and health) and extrinsic aspirations (wealth, fame and image). The terms intrinsic and extrinsic aspirations are used to demonstrate that some goals are expected to be more closely linked to basic needs satisfaction than others. Goals that are labeled intrinsic are satisfying in their own right and therefore provide for needs satisfaction. Intrinsic aspirations are positively related to positive physical and health behaviors, enhanced relationships, greater psychological wellbeing and positive adjustment (Ryan et al., 2008; Sheldon and Filak 2008; Ryan, Williams, Patrick and Deci, 2009; Sebire, Standage and Vansteenkiste, 2009).

Alternatively, research has demonstrated that when people report strong extrinsic aspirations (wealth, fame and image) they report lower self esteem, life satisfaction, self-actualization, relationship quality and cooperative behaviour, and report greater depression, stress, anxiety, exhibit greater prejudice and social-dominant attitudes (Weinstein and Ryan, 2011; Duriez, Vansteenkiste, Soenens and De Witte, 2007; Kasser and Ryan, 1993, 1996; Sheldon, Sheldon, and Osbaldiston, 2000; Vansteenkiste, Duriez, Simons and Soenens, 2006; Sheldon and Kasser, 2008). Extrinsic aspirations have an outward, external orientation, often referred to as a 'having' orientation (Fromm, 1976; Van Boven and Gilovich, 2003). This results in greater interpersonal comparisons of success in goal achievement (Lyubomirsky and Ross 1997; Sirgy, 1998), and emphasizes acquiring external signs of importance (Kasser, Ryan, Couchman and Sheldon, 2004), resulting in unstable self-esteem (Kernis, Brown and Brody, 2000).

Furthermore, as extrinsic aspirations are concerned with external manifestations of importance such as pursuing wealth and fame, they provide an external barometer of success, rather than being intrinsically satisfying. Such an orientation is likely to give rise to a view of the business and social world as a competitive jungle characterized by a struggle for resources and power in which only the fit succeed (Duriez et al., 2007). Conversely, people with an intrinsic goal orientation are driven by a genuine interest in developing positive affiliations with others and by a willingness to participate positively in one's community (Kasser, 2002). In sum, extrinsically oriented individuals are associated with diminished

leadership efficacy and ability (Hannah & Avolio, 2011) as well as less optimal functioning (Deci and Ryan, 2000).

Vansteenkiste, Duriez, Simons and Soenens (2006) examined the role of context when he compared aspirations of students wellbeing, suggesting materialistic and extrinsic aspirations may 'fit' the context of business students better than education students. Vansteenkiste et al (2006) found business students had significantly higher extrinsic aspirations than education students, and this was expected due to a dominating culture of pay for performance in business. However, business students with higher extrinsic aspirations still reported significantly lower psychological wellbeing, showed more signs of internal distress and greater self destructive behaviours. As such, the extrinsic nature of aspirations may still be detrimental even amongst business leaders. Moreover, Deckop et al. (2010) examined the role of materialistic work value aspirations towards job and career satisfaction. These results provided evidence of a consistent negative relationship between job and career satisfaction on materialism. Although both studies examined the work context and aspirations, no study has examined the full range (positive and negative) of life aspirations on leaders' job burnout.

JOB BURNOUT

It has been recognized that the complexity and difficulty of the business environment is likely to cause greater burnout for leaders managing such turbulence (Hart, Conklin and Allen, 2008). Job burnout is a crucial area of study

as leaders' stress and burnout has been found to influence employee wellbeing (see Skakon et al., 2010 for a full review). Furthermore, organizations in which the average employee reported high levels of burnout were evaluated less positively by their clients, their personnel costs were relatively high, and their productivity was lower (Macik-Frey, Quick and Nelson, 2007), as such burnout is associated with poorer organizational performance. Swider and Zimmerman, (2010) stated that the antecedents to job burnout are traditionally grouped into three categories: (1) organizational, (2) occupational and (3) individual. Swider and Zimmerman, (2010) suggest that while research has centred on and outlined a number of possible organizational and occupational predictors of burnout – such as the nature of the job and complexity of the business environment, “the study of individual-level predictors has been far less systematic” (p. 499). In their meta-analysis, Swider and Zimmerman, (2010) found compelling evidence “underscoring the importance of individual-level predictors of job burnout” (p. 499), in particular they assessed personality traits. They found that employees who are “higher in neuroticism and lower in extraversion, conscientiousness and agreeableness are more prone to experience job burnout” (p. 499). However, despite these links, there has been little exploration of the influence of individuals' aspirations on their job burnout. Job burnout can be “manifested by a sense of feeling psychologically and emotionally drained” (Zohar, 1997, p. 110). While job burnout has three dimensions, Euwema, Kop, and Bakker (2004) noted that emotional exhaustion and cynicism are the “core dimensions of burnout” (p. 24).

Emotional exhaustion is defined as “feelings of being emotionally overextended and exhausted” (Maslach and Jackson, 1981, p. 101) and cynicism relates to indifference or distant attitude of work, and having a callous and cynical attitude to work (Euwema et al., 2004). These are explored in more depth below.

Emotional Exhaustion

Emotional exhaustion is a “chronic state of physical and emotional depletion that results from excessive job demands and continuous hassles” (Wright and Cropanzano, 1998, p. 489). It entails the sentiment of being emotionally overextended and fatigued. Theorists have argued that emotional exhaustion is one of the early and crucial elements of employee job burnout (Maslach, 1978, 1982; Leiter and Maslach, 1988; Cordes and Dougherty, 1993). It is characterised by a feeling of lack of energy and depleted emotional resources (Posig and Kickul, 2004) which can in effect, debilitate the state of an individual’s mental health. Emotional exhaustion exists where an employee is expending large amounts of emotional energy endeavouring to meet conflicting expectations but feels they have deficient resources to do so. Furthermore, emotional exhaustion has been linked to decreased job satisfaction (Lee and Ashforth, 1996) and a decline in job performance and subsequently higher turnover (Wright and Cropanzano, 1998). It is evident that a feeling of lack of energy and deficient emotional resources can affect leaders’ performance and positive influence in the workplace.

Cynicism

Research with the *Maslach Burnout Inventory* in the area of cynicism has also yielded well established findings (Maslach, Jackson and Leiter, 1996). Employee cynicism can manifest as “feelings of frustration and disillusionment as well as negative feelings toward and distrust of a person, group, ideology, social convention, or institution” (Andersson and Bateman, 1997, p. 450). Dean, Brandes and Dharwadkar, (1998) describe employee cynicism as the product of negative affect towards the organization and “tendencies for disparaging and critical behaviour towards the company that are consistent with these beliefs and affect” (p. 345). Generally, cynicism in the workplace is deemed to be of a destructive nature to the organization (Andersson and Bateman, 1997).

Research has identified several factors which have been linked with engendering cynicism, including unrealistic or frustrated expectations (Watt and Piotrowski, 2008; Bernerth, Armenakis, Field and Walker, 2007). Cynicism has been linked with increased beliefs of unfairness, feelings of distrust, decreased commitment, decreased job/life satisfaction and feelings of alienation (Andersson and Bateman, 1997; Watt and Piotrowski, 2008). In addition, a cynical employee is likely to be significantly less engaged at work, experience increased absenteeism and overall lower role performance (Wanous et al., 2000). Leiter and Maslach, (1988) found cynicism to be negatively correlated to organizational commitment, while Kline and Verbeke, (1999) found cynicism to negatively

predict autonomous (and positive) feedback, highlighting the literature's consistent findings of the negative influences from cynicism.

HYPOTHESES

Studies of aspirations have found intrinsic aspirations are linked positively to outcomes such as enhanced psychological needs fulfillment and wellbeing (e.g. Deci and Ryan 2000), while extrinsic aspirations engender negative consequences such as greater stress and ill-being (e.g. Weinstein and Ryan, 2011). Empirical studies of job burnout typically focused on emotional exhaustion and cynicism (Euwema et al., 2004) and found consistently detrimental outcomes for employees and organizations (Alarcon, 2011; Nahrgang, Morgeson, & Hofmann, 2011). The present study focuses on the influence of leaders' aspirations on job burnout. All people will have all of these aspiration dimensions at some level, although they might vary widely, and typically we'd expect people to average higher levels of intrinsic aspirations than extrinsic aspirations. The literature suggests that intrinsic aspirations would be negatively related to burnout dimensions, given that intrinsic aspirations act as a psychological resource as they aid wellbeing. Conversely, extrinsic aspirations are likely to increase feelings of exhaustion and cynicism given their implications for enhancing ill-being. For example, a leader focused on accumulating wealth, fame and looking good may exhaust themselves in the attempt to gain greater and greater amounts of these facets to meet their own inner life goals (Lyubomirsky and Ross, 1997). This is further perpetuated due to the competitive and comparative nature of external aspirations; hence these leaders

may never feel satisfied with the result, resulting in higher exhaustion and cynicism, through literally seeking more and more wealth and fame. As such, working harder to gain extrinsic goals becomes depleting for the individual.

Alternatively, in viewing the role of intrinsic aspirations, relationships for example are marked by their psychological benefits and ability to enhance wellbeing through greater social support and ability to share important issues (Diener and Seligman, 2002). Moreover, those who contribute to their community, pursue personal growth and good health display reservoirs of wellbeing and flourish psychologically, thereby buffering the demands of work and stressful situations (Ryan et al., 2008). In effect, chasing these intrinsic life goals are less likely to deplete resources leading to lower job burnout and instead may generate greater resources to aid wellbeing. As such, we hypothesize that *extrinsic aspirations* (wealth, image and fame) will be positively related to job burnout, while *intrinsic aspirations* (growth, relatedness, community contribution and health) will be negatively related.

Hypothesis 1: Higher extrinsic aspirations (a) wealth, (b) fame, (c) image, will be linked to higher emotional exhaustion.

Hypothesis 2: Higher extrinsic aspirations (a) wealth, (b) fame, (c) image, will be linked to higher cynicism.

Hypothesis 3: Higher intrinsic aspirations (a) growth, (b) relatedness, (c) community, and (d) health, will be linked to lower emotional exhaustion.

Hypothesis 4: Higher intrinsic aspirations (a) growth, (b) relatedness, (c) community, and (d) health, will be linked to lower cynicism.

METHOD

Sample and Procedure

Data were collected from 250 organizations, spread across a wide regional location in New Zealand. Supervisors and leaders were the target of this survey and a question was included in the front of the survey in order to confirm they were in a position of authority (supervisor or manager). A total of 386 surveys (from 600) were returned for a response rate of 64.3%. Survey One included items relating to the seven dimensions of aspirations, as well as demographic variables. Two weeks later, Survey Two was administered to the same participants (containing the job burnout measure). On average, the participants were 37.4 years old (SD=13); 58% were male; married (59%); parents (54%) and union members (12%). Respondents worked 39.7 hours per week (SD=13.4), had job tenure of 5.7 years (SD=6.6) and organizational tenure of 9 years (SD=9.3).

Measures

All reliability scores were above $\alpha = .70$ and are shown in Table 2.

Outcome variable: Emotional Exhaustion and Cynicism were measured using 4-items for each dimension from Maslach and Jackson, (1981). A sample item for emotional exhaustion is “I feel emotionally drained from my work” and for cynicism is “I have become more cynical about whether my work contributes

anything.” Responses were coded, 1=never, 5=always. Thus, higher scores indicate greater emotional exhaustion and greater cynicism respectively.

Predictor variables: Aspirations were assessed using 28-items (4 per dimension) of the Aspirations Index by Kasser, (2002), coded 1=not at all, 5=very. Questions followed the stem “Please circle the number that best represents your opinion relating to the following goals or aspirations that you hope to accomplish over the course of your life.” These items relate to seven dimensions, which relate to *intrinsic aspirations* (meaningful relationships, personal growth, community contributions and health) and *extrinsic aspirations* (wealth, fame and image). Sample items of intrinsic aspirations are “To have good friends that I can count on” (Relationships); “To grow and learn new things” (Personal Growth); “To work for the betterment of society” (Community) and “To be physically healthy” (Health). Sample items of extrinsic aspirations are “To be a very wealthy person” (Wealth); “To have my name known by many people” (Fame) and “To successfully hide the signs of aging” (Image). To test the factor structure of the seven dimensions, an exploratory factor analysis (principal components, varimax rotation) was run to explore the nature of the measure. This supported the seven factor structure of the aspirations index.

Measurement Models

To confirm the separate dimensions of measures, items were tested by structural equation modeling (SEM) using AMOS. Typically, SEM studies use a large number of goodness-of-fit indices. However, Williams, Vandenberg and Edwards (2009) have criticized the literature, suggesting that some of these indices are meaningless (e.g. chi-square goodness-of-fit statistic). They suggested the following goodness-of-fit indices: the comparative fit index (CFI, $\geq .95$), the root-mean-square error of approximation (RMSEA, $\leq .08$), and the standardized root mean residual (SRMR, $\leq .10$). The hypothesized measurement model and alternative models are shown in Table 1.

Insert Table 1 about here

Overall, the hypothesized measurement model fit the data best. To confirm this, the CFA was re-analyzed following Hair, Black, Babin and Anderson's (2010) instructions on testing comparison models and this showed the alternative models were all significantly worse than the hypothesized model.

Analysis

Hypotheses were tested using SEM in AMOS to assess the direct effects of the study variables, with the latent outcome variables co-varied as they are typically strongly related (Euwema et al., 2004).

RESULTS

Descriptive statistics for the study variables are shown in Table 2.

Insert Table 2 about here

Table 2 shows the intrinsic aspirations dimensions are all significantly correlated with each other (all $p < .01$) and the extrinsic aspirations dimensions are all significantly correlated with each other also (all $p < .01$). Emotional exhaustion and cynicism were both significantly correlated with all the extrinsic aspirations dimensions (all $p < .01$). Cynicism is significantly correlated with all intrinsic aspiration dimensions (all $p < .05$), while relationships ($r = -0.13$, $p < .05$) and health ($r = -0.16$, $p < .01$) are both significantly correlated with emotional exhaustion and personal growth and community are not significantly correlated.

The direct relationships were tested in a structural model with all seven predictors (aspirations) and both outcome variables (job burnout) included. Overall, the model fits the data well: $\chi^2(558) = 1002.4$ ($p = .000$), CFI = .95, RMSEA = 0.05 and SRMR = 0.05. These scores all meet the required standards (Williams et al., 2009) indicating solid fit of the data.

Insert Figure 1 about here

Structural Models

Aligned with the recommendations of Grace and Bollen, (2005), unstandardized regression coefficients are presented. Figure 1 shows that with regard to extrinsic aspirations, wealth aspirations are significantly linked with emotional exhaustion (path coefficient= 0.16, $p < 0.05$) and cynicism (path coefficient= 0.25, $p < 0.05$). Similarly, image aspirations are significantly linked with emotional exhaustion (path coefficient= 0.18, $p < 0.001$) and cynicism (path coefficient= 0.33, $p < 0.001$). These findings support Hypotheses 1a and 1c. Figure 1 also shows that with regard to intrinsic aspirations, health aspirations are significantly linked with emotional exhaustion (path coefficient= -0.14, $p < 0.01$) and cynicism (path coefficient= -0.18, $p < 0.05$). Similarly, relationship aspirations is significantly linked with cynicism (path coefficient= -0.18, $p < 0.1$). These findings support Hypotheses 2b and 2d. Overall, the structural model towards emotional exhaustion accounts for moderate amounts of variance ($r^2 = 0.19$) and slightly lower amounts for cynicism ($r^2 = 0.16$).

DISCUSSION

The present study undertook an SDT approach towards understanding how life aspirations (intrinsic v extrinsic) related to the job burnout of leaders. Overall, the majority of aspiration dimensions were significantly correlated in the expected direction with job burnout dimensions, and consequently, for the first time, we find significant relationships between the SDT dimensions associated with a leader's life goal orientations and job burnout. These findings support the notion

that the nature of life aspirations, whether intrinsic and positive or extrinsic and negative, can influence the wellbeing of people at work. Therefore this study supports Deci and Ryan's (2000) assertion that the pursuit of some goals (intrinsic aspirations) provides greater enhancement of psychological wellbeing than the pursuit of others (extrinsic aspirations), and we extended this to include job burnout amongst leaders' in a business environment.

From our structural model, we can see that extrinsic aspirations appear more important towards predicting job burnout than intrinsic aspirations. Indeed, two of the extrinsic aspirations, wealth and image, were found to be detrimental and positively related to emotional exhaustion, while only health aspirations, were negatively related. Hence, leaders who are focused on being wealthy and focus on their image are likely to feel exhausted and less energetic. Potentially this is because the focus on wealth accumulation and an emphasis on image represent a 'having' orientation, an external barometer of success, placing the leader on the 'hedonic treadmill' where greater and greater amounts of wealth and beauty are required, leading to short term satisfaction when initially obtained, but culminating in longer term stress, dissatisfaction and frustration, thus reducing psychological wellbeing (Lyubomirsky and Ross, 1997). We suggest that as leaders strive to attain wealth and beauty this becomes fatiguing and this manifests itself in the job burnout of the leader. Perhaps the drive for wealth encourages leaders to spend more time and energy in the workplace and similarly the desire to be perceived as high in beauty and image may similarly drive

themselves to be at work longer ‘to be seen’, which ultimately leads to problems of exhaustion.

Regarding intrinsic aspirations, leaders focused on being physically healthy and active are less likely to report emotional exhaustion, which supports links between emotional exhaustion and physical health (see Maslach and Goldberg, 1998) and the role of physical health in enhancing psychological wellbeing (Sebire et al., 2009). Consequently, having an orientation and goal to be physically healthy can act as a personal resource for leaders and this could be enough to help reduce job burnout, essentially through being active, eating well, and gaining enough sleep, which acts as a buffer towards stress and burnout and ultimately facilitates greater wellbeing. Perhaps these leaders with a higher health orientation are better able to manage their workloads and leave work on time (perhaps to engage in physical activity), thus reducing the exhaustion that may occur from greater time in the workplace. Alternatively, these leaders may be in better physical and mental shape and thus be able to handle their workloads and take any associated problems in their stride.

There were consistent influences from the extrinsic aspirations of wealth and image towards cynicism, mirroring the influences towards emotional exhaustion. Consequently, leaders who are focused on being wealthy and focus on their image are more likely to report being cynical and feeling less interested in their work. It appears the ‘having’ orientation and its associated ‘hedonic treadmill’ still leaves leaders doubting the worth of their work, even while striving

harder for greater wealth and image. As with emotional exhaustion, these leaders who strive towards wealth and looks may end up spending greater time and energy in the workplace, which ultimately leads them to doubt the value of what they are doing. Again, this reinforces the disadvantages of focusing on external aspirations and supports the notion that striving hard at work to attain wealth may ultimately leave workers feeling empty and cynical.

Towards cynicism, two of the intrinsic aspirations were negatively related, showing that these life goals may also aid in reducing the cynicism of the leader. Leaders focused on being physically healthy and active were less likely to report cynicism, as were leaders focused on relationships. Again, the health aspiration likely provides the leader with a personal resource to help reduce cynicism, essentially though being active and healthy eating, which acts as a buffer towards feelings of frustration and disillusionment in the workplace. The relationship aspiration may also provide a direct level of social support which has been shown to buffer stress (Viswesvaran, Sanchez and Fisher, 1999). As such, leaders who aspire to stronger relationships may have more people to draw on, discussing issues at work, thus nullifying feelings of cynicism and worthlessness towards their job by being able to talk about and compare the various experiences of others. While the extrinsic aspiration of fame was not significant in our structural model this could be a result of our sample of business leaders. These people may assume they have gained a certain level of fame by being in a leadership position, especially within their organization. Further, personal growth (intrinsic aspiration)

was similarly non significant and again this could be due to the sample of professionals who may already view themselves as engaged in, or have achieved, a high level of personal growth. Future studies may need to investigate this further.

Overall, the present study suggests leaders focused on personally attaining greater wealth and being focused on image and dress style may suffer detrimental outcomes such as higher emotional exhaustion and cynicism. These findings are important because Kasser et al., (2007) noted that extrinsic aspirations undermine trust in leadership and furthermore, a leader's focus on their own self interest (money, looks) can also create distrust in leadership (Sinclair 2007). As such, we find support for the notion that extrinsic aspirations can be personally detrimental for leaders and indeed, this may have negative flow-on effects for employees and wider society. However, a leader focused on personal health and relationships is likely to provide a good role model for employees and other leaders, especially given the benefits of being negatively related to exhaustion and cynicism. As such, leaders should be encouraged to focus on their health and relationships, as this is likely to extend beyond personal benefits (e.g. fitness and people) and also influence their job outcomes, such as lower job burnout. Moreover, relatedness aspirations are linked to positive leadership (Cameron, 2008; Spreitzer, 2006), and we find they are also beneficial in relation to leaders' own cynicism. This provides support for the linking of leaders' personal goals as 'resources' that

could potentially sustain positive leadership practices in the workplace, and we encourage future research to examine this.

Implications

Overall the findings here showed that extrinsic aspirations were positively related to job burnout, while intrinsic aspirations were largely negatively related. In particular the negative relationships of health and relationship aspirations towards job burnout are encouraging and require greater investigation, as this aligns more clearly the positive leadership and positive psychology literature in the development of wellbeing resources for leaders. At an organisational level, implications include highlighting, during leader development programs, the benefits of health and relationship aspirations in encouraging leaders' wellbeing. Furthermore, organisations should remain aware of the importance of leaders' aspirations, and aim to support and nurture intrinsic aspirations as these are likely to enhance positive organisational outcomes.

Further, we encourage future research that not only tracks the intrinsic aspirations and behaviours of leaders, but the consequences of this on employee wellbeing. In addition, future research may look to consider aspirations and aspiration *attainment* or how leaders behave as opposed to what they aspire to (Kasser and Ryan, 1996). This research would clarify whether goals that are attained are still motivational, or whether it is the future state of the life goal that is more significant in workplace research. Moreover, this approach (goal motive v goal attainment) is consistent with other SDT research on aspirations

(Vansteenkiste, Simons, Soenens and Lens 2004; Sheldon, Ryan, Deci and Kasser, 2004).

The initial factor analysis on aspirations and the subsequent CFA in SEM confirmed the structure of aspirations and noted that the seven dimensions are fundamentally different within their sample of leaders, which supports theoretical and empirical studies. Future studies might test aspirations longitudinally to see whether aspirations change over time for leaders, especially through junior to senior leadership and onto the CEO position. For example, do leaders who have strived for wealth and attained it, but also have higher emotional exhaustion and cynicism, influence their wealth aspirations for the future? Furthermore, this study only investigated job burnout and extension of this issue is warranted, for example how does this relate to ethical decision making and leader career opportunities? Future studies would need to address these issues. Clearly, there are avenues that need further study and the present study has established that aspirations do play a role towards job burnout, which was previously unknown.

Limitations

Overall, while the present study provides strong support for a relationship between aspirations and job burnout, there are some limitations. The present study drew on a sample of leaders only, and while this sample is large and from a wide range of organizations and industries, it is still focused on a professional job type. Moreover, the research is set in New Zealand which is a westernised/individualistic nation, whereas in more collectivistic cultures (e.g.

China) aspirations may differ in priority and outcomes. For example, collectivistic cultures may find the role of affiliation or community far more significant in buffering burnout (than say health as found here), due to the collectivistic ideals and centrality of relationships and community in these cultures. However, the cultural setting of New Zealand is new for aspirations studies and highlights that these SDT dimensions appear to translate similarly in other western cultures beyond the widely explored US (e.g. Deci and Ryan, 2000). Finally, while data collection method was cross-sectional and a limitation common to the OB literature, the collection of independent and dependent variables at separate times and the use of SEM (Kenny, 2008) does limit the potential influence of common method variance.

Conclusion

Overall, the present study garnered a greater understanding of the influence of life aspirations on leaders' job-related burnout and found that health and relationship aspirations were negatively related to job burnout, while wealth and image aspirations were positively related. By testing these relationships on a large sample of leaders from numerous organizations in New Zealand it aids our confidence in generalizing these findings, at least amongst leaders. To our knowledge, no study has tested the influence of leaders' life aspirations towards job burnout and the present study provides a unique contribution in this regard. Importantly, we find that what a leader focuses on will ultimately influence their own wellbeing and as such, organizations and leaders should strive towards a

greater understanding of how and where they direct their focus. If importance is placed on intrinsic aspirations such as personal health and relationships, rather than extrinsic aspirations such as wealth and image, leaders' wellbeing is enhanced, creating a personal resource of positive energy within the organisation (Cameron, 2010). As the world wide 'occupy' movement demonstrates growing societal intolerance of organizations excessive concern with extrinsic indicators of success, understanding the benefits of intrinsic aspirations and the advantages of these for leaders and their wider stakeholders moves away from the negative press and associated detrimental outcomes linked with extrinsically motivated leaders.

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TABLES AND FIGURES

Table 1. Results of Confirmatory Factor Analysis for Study Measures

Model	χ^2	Model Fit Indices				Model Differences			Details
		df	CFI	RMSEA	SRMR	χ^2	Δ df	p	
1. Hypothesized 9-factor model: Three extrinsic aspirations: wealth, image and fame; four intrinsic aspirations: community, relatedness, growth, and health; two job burnout dimensions: emotional exhaustion and cynicism.	960.6	558	.95	.04	.05				
2. Alternative 8-factor model: Three extrinsic aspirations: wealth, image and fame; four intrinsic aspirations: community, relatedness, growth, and health; and a combined job burnout dimension: emotional exhaustion and cynicism combined.	1157.3	566	.93	.05	.05	196.7	4	.001	Model 2 to 1
3. Alternative 4-factor model: One global extrinsic aspiration: wealth, image and fame combined; one intrinsic aspirations: community, relatedness, growth, and health combined; two job burnout dimensions: emotional exhaustion and cynicism.	2983.6	588	.70	.10	.08	2023	30	.001	Model 3 to 1

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Table 2: Correlations and Means of Study Variables

Variables	M	SD	1	2	3	4	5	6	7	8	9
Extrinsic Aspirations:											
1. Wealth	3.4	.82	.83								
2. Fame	2.4	.98	.49**	.89							
3. Image	2.3	1.0	.46**	.58**	.88						
Intrinsic Aspirations:											
4. Personal Growth	4.2	.64	.06	.07	.03	.76					
5. Relationships	4.3	.77	-.00	-.02	-.02	.50**	.89				
6. Community	3.8	.84	-.03	.17**	-.03	.52**	.45**	.89			
7. Health	4.3	.72	.15**	.01	.05	.39**	.47**	.38**	.88		
Job Burnout:											
7. Emotional Exhaustion	2.6	.88	.18**	.21**	.28**	.09	-.13*	-.08	-.16**	.84	
8. Cynicism	2.2	.95	.16**	.17**	.26**	-.13*	-.20**	-.12*	-.16**	.64**	.85

N=386, *p< .05, **p< .01. Bold scores on the diagonal show reliability scores (Cronbach's alpha).

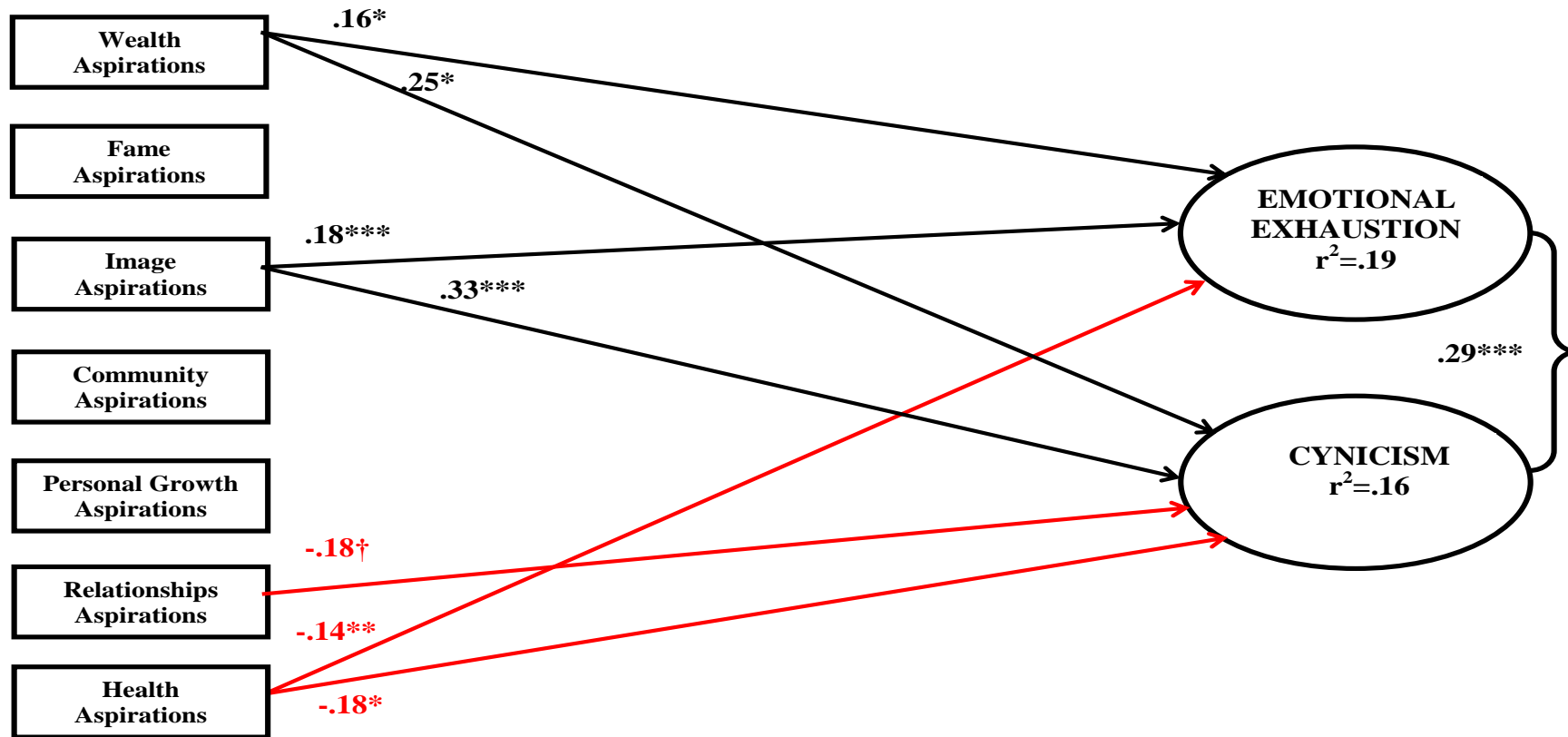


Figure 1: Prediction Model Aspirations

CHAPTER 4

MOTIVATIONS

Paper title

Self-Determination Theory Motivations to Job Satisfaction: The Mediating Role of Work-Family Enrichment.

Declaration

I developed the theoretical model for the paper. I instigated data collection in conjunction with the second author (Professor Haar) and I had overall responsibility for the collection of data, which included three data sets: junior and senior leaders that are combined for this study (see chapter two), and CEOs. I was responsible for data entry and cleaning and completed the initial statistical analysis for the paper in SPSS and then in SEM with my co-author. I also provided to CEOs with individual feedback analysis and reports as an acknowledgement of their contribution. I wrote the first full draft of the paper. Thus the development of this paper and theoretical contributions are largely mine.

My co-author contributed to the theoretical development of the paper specifically through his expertise on work-family enrichment. He checked the statistical analysis, in particular the SEM, and helped with the mediation model tests. He provided work-family enrichment literature where needed, and gave feedback on

the paper, including overall editing. The final version of the paper was edited by an editor.

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ABSTRACT

Two studies of (1) 386 junior/senior leaders and (2) 205 CEOs, investigated the role of Self Determination Theory (SDT) motivations and work-family enrichment towards leaders' job satisfaction, and a partial mediation model was found to best fit the data for both studies. In study one, the effects of self-determined motivation dimensions on job satisfaction were fully mediated by work-family and family-work enrichment. However, the non-self determined dimensions of SDT motivations were directly and negatively related to job satisfaction and enrichment. In study two, self-determined forms of motivation were positively related to work-family and family-work enrichment and job satisfaction, while only work-family enrichment was positively related to job satisfaction. The non-self determined dimensions of SDT motivations were directly and negatively related to work-family enrichment and job satisfaction. Overall, both studies show that the influence of motivations on job satisfaction of leaders is better understood through enrichment.

Keywords: self-determination theory, work-family enrichment, motivation, job satisfaction, mediation, leaders.

INTRODUCTION

Leaders' moods and behaviours are contagious and have a direct influence on employee wellbeing and morale (Sy, Côté & Saavedra, 2005). Yet very little is understood about how leaders themselves survive, let alone positively influence others, in today's turbulent workplace environment. Increasingly leaders are faced with complex, difficult and demanding situations that challenge their very sense of self (Hannah, Woolfolk, & Lord, 2009). It has been suggested that this challenge can be mitigated for leaders by pursuing goals and activities that reflect their beliefs, interests and values (Hannah et al., 2009). As such, leaders whose motivations reflect intrinsic and self-congruent beliefs and values are likely to experience beneficial wellbeing, yet this remains to be fully tested from a self-determination theory (SDT) perspective (Hannah et al., 2009; Gagne & Deci, 2005).

In addressing the concerns of current, complex workplace, calls for a greater understanding of the role of managers 'whole lives' and not just their work lives have also been made (Greenhaus & Powell, 2012; Haar & Roche, 2010). The work family enrichment literature highlights that potential positive synergies exist between work and home. We argue that this synergy may also provide greater insight and understanding into leaders' SDT motivation and wellbeing, and as such also requires attention.

As job satisfaction is the most commonly employed measure of employee wellbeing at work (Judge & Klinger, 2008) this study seeks to extend the understanding of leaders' job satisfaction, by examining the role of leaders' motivation, using SDT. We further test the role of work family enrichment on

leaders' job satisfaction motivation relationship. This paper makes three contributions. Firstly, we extend the SDT research by examining each of the six dimensions of motivation (outlined below). Secondly, we use two separate samples of leaders, (1) junior and senior leaders and (2) CEOs, in order to extend the understanding of job satisfaction towards higher echelons of organisations (De Church, Hiller, Murase, Doty, & Salas, 2010). Finally, we test, and find strong support for, the potential mediation effects of enrichment on the relationships between SDT motivation and job satisfaction.

SELF DETERMINATION THEORY AND MOTIVATION

SDT is concerned with how the *quality* of motivated action influences wellbeing outcomes (Ryan & Deci, 2000; Sheldon et al., 2004). Generally, some motivational states enhance wellbeing and result in a range of positive outcomes, these are termed *self-determined*. Other motivational states restrict or thwart wellbeing and are termed *non-self determined* (Deci & Ryan, 2000). Further, according to SDT, motivation ranges along a quality continuum (Gagne & Deci, 2005). This quality continuum and each of the motivational types is discussed in detail below and represented in Figure 1.

Insert Figure 1 about here

Intrinsic motivation refers to the activity itself being motivating. SDT research distinguishes intrinsic motivation as one form (the highest quality) of self-determining motivation. Intrinsic motivation is generated by unconditional curiosity, interest and the enjoyment of the activity regardless of the outcomes

that may follow. Therefore, intrinsic motivation is not based on reasoning and reflections about being in a situation, nor how important this situation is to a person's identity, it is based on the activity itself.

Integrated regulation is found when leaders have the full sense that the behaviour is an integral part of who they are and that it stems from their sense of self: thus it is self-determined (Gagne & Deci, 2005). It involves the integration and identification of the person's wider values and beliefs, with those values associated with the workplace, or work itself. For example a leader with a personal value and belief of 'service' (Greenleaf, 1998), which is central to their identity, would be more likely to act in ways that are consistent with serving people more generally, even outside work (Gagne & Deci, 2005).

Identified regulation relates to value-based acting, but within a specific context, such as the workplace. For example, a leader who believes his or her role is servant-based may end up performing tasks he or she does not enjoy in order to free up employees to focus on tasks they do enjoy (Greenleaf, 1998). In this example a leader undertakes an activity as he or she believes the value associated with that activity is important. Indeed, the value of the activity may become personally important to the leader, and as such becomes an internalised and meaningful aspect of that leader. With identified regulation, people feel greater autonomy and volition because the behaviour is more congruent with their personal goals and identities. Thus, it is self-determined. The above three forms of motivation (intrinsic, integrated and identified) represent high quality, self-determined motivation. The following three forms of motivation are considered low quality motivation.

Introjected regulation refers to the experience of being driven toward an activity by felt expectations or evaluations of others. It includes self esteem and ego involvement, which act in a way that pressure people (internally) to undertake activities in order to feel self worth. So, if a leader tries to garner others' approval of his or her style or decision-making, because doing so enhances his or her self esteem: the leader is motivated by something external to the self, that is, others' positive opinions or affirmations that are ego enhancing.

Being coerced into behaving a particular way or undertaking actions to avoid punishment or gain a reward is referred to as *external regulation*. A leader who believes the control systems within an organisation may pick up on areas in which he or she is deficient, and only then undertakes an activity, is externally motivated.

Finally, *amotivation* is a lack of motivational state in which there is no inclination or intention to undertake the activity. This is the lowest form of regulation and is also non-self-determining. As such, it is the *underlying regulatory* processes with regards to motivation towards one's goals that typifies SDT. Indeed SDT considers optimal functioning to be realised by the quality of motivation. As motivation moves along the continuum from (3) *identified* to (2) *integrated*, and towards (1) *intrinsic*, it represents greater self-concordance and internalisation within the person, creating better outcomes in terms of motivational quality, and thus is self-determining. Alternatively, (4) *introjected*, (5) *external* and (6) *amotivation* are low quality motivation forms, non-self-determining and associated with negative outcomes (Gagne & Deci, 2005).

The six separate dimensions of motivation affect wellbeing differently, and SDT holds that this nuanced view of motivation allows for a greater analysis, and therefore greater insight and understanding of, wellbeing (Deci & Ryan, 2000). However recent research on SDT motivation and regulation has not followed this original view of SDT and typically does not include all six dimensions, and in other cases, analysis has been overly complicated in the calculation of motivation in the literature. For example, SDT research typically assesses only four dimensions of motivation (typically integrated regulation and amotivation are excluded, (see Gagne, Forest, Gilbert, Aubé, Morin, & Malorni, 2010). Other approaches include measuring motivation as a relative index of autonomy (see Vallerand, 1997), where the various motivation dimensions are weighted, (e.g. amotivation score multiplied by three) and then self-determined motivations are totaled and non-self determined motivations are subtracted, giving a global index rather than a fine grained analysis of motivation. Recently, Tremblay, Blanchard, Taylor, Pelletier, and Villeneuve (2009), closely following Deci and Ryan's (2000) assertions, validated the six dimensions of motivation within the workplace. We suggest that these six discreet forms of motivation are likely to garner a finer grained analysis of leaders' motivation, and in particular the motivation dimensions maybe differentially invoked over various leadership levels. As such, we use the six dimensions of SDT motivations, self determined motivations (including intrinsic, integrated and identified) and non-self determined motivations (including introjected, external and amotivation). Thus this study overcomes previous limitations with SDT research, and extends understanding of SDT motivations towards leaders.

SELF DETERMINATION THEORY MOTIVATIONS, JOB SATISFACTION & HYPOTHESES

SDT is one of the few psychological theories that directly address' the issue of internalised self-regulation of motivation (Gagne & Deci, 2005) *and* the consequences that this type of regulation has for health, wellbeing, and general functioning (Deci, Koestner, & Ryan, 1999).

Self-determined motivation, generally, results in greater life satisfaction, affective commitment, reduced turnover intentions, enhanced goal attainment and performance (Kuvaas & Dysvik, 2010; Sheldon & Elliot, 1998; Baard, Deci, & Ryan, 2004). Alternatively, non-self determined motivation has been associated with inconsistent striving towards goals, vulnerability to persuasion and impaired performance (Vallerand, 1997; Koestner & Losier, 2002). Within leadership research, Richer and Vallerand (1995) found that the way supervisors interact with employees influences the supervisors own self-determined motivation. Similarly, Bono and Judge (2003) found that leaders' self-determined goals influence the goals sought by employees, and that self-determined goals lead to increases in job satisfaction and organisational commitment in employees.

Job satisfaction is the most common method of assessing employee wellbeing (Judge & Klinger, 2008), and although it broadly captures the degree to which a person is happy with his or her job, it is related to a number of important organisation level outcomes such as financial performance, leadership quality, and employee satisfaction (Harter, Schmidt, Asplund, Killham, & Agrawal, 2010). Job satisfaction is also related to an array of positive workplace behaviours, such as greater job performance and pro-social and organisational citizenship behaviours

(Judge & Klinger, 2008), and these behaviours are particularly salient in leadership influence.

In relation to SDT, generally, self-determined motivation has been found to enhance job satisfaction (Ilardi, Leone, Kasser, & Ryan, 1993). This study will extend these findings towards all six dimensions of SDT motivation. We include identified regulation in the positive self-determined motivations category, as this has not been previously tested towards job satisfaction of leaders within the SDT literature. We include amotivations within the non-self determined motivation dimensions, outlined in the second hypothesis, in order to also overcome limitations in previous SDT studies on motivation (Tremblay et al., 2009). This leads to our first set of hypotheses.

Hypothesis 1: *High (a) intrinsic motivation, (b) integrated regulation, and (c) identified regulation, will be positively related to job satisfaction.*

Hypothesis 2: *High (a) introjected regulation, (b) external regulation, and (c) amotivation, will be negatively related to job satisfaction.*

MEDIATING EFFECTS OF WORK-FAMILY ENRICHMENT

Work-Family enrichment refers to the process whereby an employee's involvement in one domain is beneficial for functioning in another (Wayne, Grzywacz, Carlson, & Kacmar, 2007). Enrichment can occur both within the workplace, called work-family enrichment (WFE), or the within the home termed family-work enrichment (FWE). Studies have shown that the beneficial nature of work and family roles is both distinct and bi-directional (Wayne, Randel, & Stevens, 2006; Haar & Bardoel, 2008).

WFE and FWE refer to the process whereby the work/family role facilitates the functioning in the family/work role (Greenhaus & Powell, 2006). One of the few studies that investigated enrichment on leaders found that enhanced self-esteem and interpersonal skills gained through involvement in the family domain helped them to better fulfill their roles as leaders (Ruderman, Ohlott, Panzer, & King, 2002). Similarly, enrichment can also occur as mood spillover (Greenhaus & Powell, 2006), where a leader brings positive emotions from a family event into the workplace, making the leader happier and more enthusiastic in his or her job. The positive links between WFE and FWE and job satisfaction have been supported (Carlson, Kacmar, Wayne, & Grywacz, 2006) and a recent meta-analysis found job satisfaction as the most popular outcome tested in the enrichment literature (McNall, Nicklin, & Masuda, 2010). Furthermore, McNall et al. (2010) stated that both WFE and FWE “had a positive relationship with job satisfaction” (pp. 388-389). As such, we expect enrichment to be positively related to job satisfaction.

Hypothesis 3: *High WFE will be positively related to job satisfaction.*

Hypothesis 4: *High FWE will be positively related to job satisfaction.*

We also suggest that given that SDT motivation is a within-person theory and that enrichment relates to something external and removed from the individual leader (e.g. occurrences in one domain crossing to another) motivations are more likely to drive enrichment than vice versa. Our assertion is backed by a meta-analysis of the work-family literature which classified motivation as an individual difference (with personality) (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005), and this type of construct has been established as a predictor of

work-family dimensions (Allen, Johnson, Saboe, Cho, Dumani, & Evans, 2012). As such, we suggest motivations are likely to influence enrichment, and indirectly affect job satisfaction. In one of the few studies to explore similar variables, Karatepe and Tekinkus (2006) tested one direction of work-family conflict (work-to-family) and a global intrinsic motivation dimension towards job satisfaction and found both were significantly related, although no mediation test was conducted. Senecal, Vallerand, and Guay (2001) focused on emotional exhaustion as an outcome, and found that work motivation led to work-family conflict (albeit through another construct). Overall, we suggest that WFE and FWE will mediate the influence of SDT motivation dimensions towards job satisfaction.

Hypothesis 5: Work-family enrichment (WFE and FWE) will mediate the influence of SDT motivation dimensions on job satisfaction.

METHOD

Sample and Procedure

We conducted two studies in response to calls for greater testing across leadership hierarchies (e.g. De Church et al., 2010). In study one data were collected from over 250 organisations, spread across a wide regional location in New Zealand. Leaders were the target of this survey and a question was included in the front of the survey to confirm they were in a position of authority (junior or senior manager). A total of 386 surveys (from 600) were returned for a response rate of 77.2%. In study two (three months later), data were collected from a mail survey of 1325 New Zealand CEOs in firms with a minimum of 50 employees. A total of 205 surveys were returned for a response rate of 15.8%. Both studies collected data in two waves. Survey one

included the motivation and enrichment dimensions as well as demographic variables. Following the first survey, a second survey was administrated, two weeks later for study one and four weeks later for study two, and this contained the job satisfaction measure. In both studies survey two was administrated to the same participants who had responded to survey one.

In study one, manager participants were on average 37.4 years old ($SD=13$), male (58%), married (59%), parents (54%), worked 39.7 hours per week ($SD=13.4$), and had job tenure of 5.7 years ($SD=6.6$). By industry 64% worked in the private sector, 30% in the public sector and 6% in not for profit. In study two, CEO participants were on average 51.3 years old ($SD=7.5$), male (92%), married (96%), parents (91%), worked 54.2 hours per week ($SD=8.2$), and had job tenure of 7.4 years ($SD=7.5$). By industry 60% worked in the private sector, 32% in the public sector and 8% in not for profit. Paired sample t-tests confirmed that these groups were distinct: with study two participants (CEOs) being significantly older, and more likely to be male, married, parents, to work longer hours and have longer tenure than study one participants. There was no significant difference by industry.

Measures

Outcome variable:

Job Satisfaction was measured using 3-items by Judge, Bono, Erez, and Locke (2005), coded 1=strongly disagree to 5=strongly agree. Participants were asked to indicate how satisfied or unsatisfied they were with different features of their present jobs. A sample item is “I find real enjoyment in my work” ($\alpha=.79$ study one, $\alpha=.82$ study two).

Predictor variables:

Motivations were calculated using 18-items by Tremblay, Blanchard, Taylor, Pelletier, and Villeneuve (2009), coded 1=does not correspond at all to 5=corresponds exactly. These items correspond to the six motivation dimensions (3-items each). Questions followed the stem “*Please indicate to what extent each of the following items corresponds to the reasons why you are presently involved in your work*”. Sample items for each dimension are: “Because I derive much pleasure from learning new things” (Intrinsic Motivations, $\alpha=.87$ study one, $\alpha=.77$ study two), “Because it has become a fundamental part of who I am” (Integrated Regulation, $\alpha=.84$ study one, $\alpha=.85$ study two), “Because this is the type of work I chose to do to attain a certain lifestyle” (Identified Regulation, $\alpha=.81$ study one, $\alpha=.72$ study two), “Because I want to be a “winner” in life” (Introjected Regulation, $\alpha=.82$ study one, $\alpha=.73$ study two), “For the income it provides me” (External Regulation, $\alpha=.81$ study one, $\alpha=.79$ study two), and “I don’t know why, we are provided with unrealistic working conditions” (Amotivation, $\alpha=.81$ study one, $\alpha=.72$ study two).

Mediator variables:

Work-family enrichment (WFE) and family-work enrichment (FWE) were measured using 6-items from Carlson et al. (2006). The statements divided equally (3 each) between work-family and family-work dimensions, following the stems “*My involvement in my work...*” and “*My involvement in my family...*”. Sample items are “Puts me in a good mood and this helps me be a better family member” (WFE, $\alpha=.92$

study one, $\alpha=.91$ study two) and “Helps me acquire skills and this helps me be a better employee” (FWE, $\alpha=.91$ study one, $\alpha=.93$ study two).

Measurement Models

To confirm the separate dimensions of measures, items were tested by structural equation modeling (SEM) using AMOS. Typically, SEM studies use a large number of goodness-of-fit indices, although recently Williams, Vandenberg, and Edwards (2009) suggested that some of these indices are meaningless, such as the chi-square goodness-of-fit statistic (used as a standalone measure of fit). They suggested the following goodness-of-fit indices: the comparative fit index (CFI, $\geq .95$), the root-mean-square error of approximation (RMSEA, $\leq .08$) and the standardized root mean residual (SRMR, $\leq .10$). The hypothesized measurement model and alternative models are shown in Table 1 for both studies.

Insert Table 1 about here

The hypothesised measurement model fit the data best for both studies. To confirm this, the CFA was re-analyzed following the approach on testing comparison models by Hair, Black, Babin, and Anderson (2010). Overall, the alternative models were both significantly worse fits than the hypothesized model, confirming the six dimensions of motivation, two dimensions of work-family enrichment and the job satisfaction outcome for study one and two.

Analysis

Hypotheses were tested using SEM in AMOS to assess the direct and meditational effects of the study variables.

RESULTS

Descriptive statistics for the study one and two variables are shown in Table 2.

Insert Table 2 about here

For study one, Table 2 shows that, overall, the self-determined motivation dimensions are all significantly and positively correlated with each other (all $p < .01$), and with WFE, FWE, and job satisfaction (all $p < .05$), as expected. Of the non-self determined motivation dimensions, introjected regulation is significantly and positively correlated with external regulation and amotivation and positively with WFE (all $p < .01$). With FWE, external regulation ($r = .14$, $p < .01$) and amotivation ($r = -.12$, $p < .05$) are significantly correlated but in opposite directions, while both are significantly and negatively correlated with job satisfaction (both $p < .05$). Finally, WFE and FWE are significantly correlated with each other ($r = .49$, $p < .01$) and with job satisfaction (both $p < .01$).

For study two, Table 2 shows that, overall, the self-determined motivation dimensions are significantly correlated with each other (all $p < .01$) in the expected direction (positive), although intrinsic motivation is not significantly correlated with integrated regulation. Furthermore, intrinsic motivation is significantly correlated with WFE, FWE, and job satisfaction (all $p < .01$), while integrated

regulation is only correlated significantly with WFE and job satisfaction (both $p < .01$), while identified regulation is only correlated significantly with FWE ($p < .05$). These are all in the expected positive direction. Within the non-self determined motivation dimensions, all are significantly correlated with each other (all $p < .05$), while amotivation is significantly and negatively correlated with WFE and job satisfaction (both $p < .01$), and external regulation is significantly and negatively correlated with job satisfaction ($p < .05$). Finally, WFE and FWE are significantly correlated with each other ($r = .37$, $p < .01$) and with job satisfaction (both $p < .05$). Overall, Table 2 shows support for Hypotheses 1a and 1b from both studies and 1c in study one only. Similarly, Hypotheses 2b and 2c and 3 and 4 are supported from both studies.

With regards to testing the relationships, three alternative structural models were tested (the same for both studies) to determine the most optimal model based on the data. These models were: (1) a direct effects model, where the SDT motivation dimensions predicted WFE, FWE and job satisfaction; (2) a full mediation model, where the SDT motivation dimensions predicted WFE and FWE, and in turn, these enrichment dimensions (alone) predicted job satisfaction; and (3) a partial mediation model, where SDT motivation dimensions predicted WFE, FWE and job satisfaction and WFE and FWE also predicted job satisfaction. The three structural models and comparisons between them (for both studies) are shown in Table 3.

Insert Table 3 about here

We tested comparison models using the technique of Hair et al. (2010) and found that model 3 (partial mediation model) was superior to model 1 (direct effects model) and model 2 (full mediation model) for both studies. As such, model 3 (partial mediation model) is superior to the other models, and is shown in Figure 2 (study one) and Figure 3 (study two).

Insert Figures 2 and 3 about here

Structural Models

Aligned with the recommendations of Grace and Bollen (2005), unstandardised regression coefficients are presented and Figures 2 and 3 show the significant SDT motivation dimensions only. We see from Figure 2 (study one) that intrinsic motivation is significantly linked with FWE (path coefficient = 0.31, $p < 0.001$) as was external regulation (path coefficient = 0.15, $p < 0.001$). Towards WFE, integrated regulation (path coefficient = 0.14, $p < 0.05$) and identified regulation (path coefficient = 0.20, $p < 0.05$) were also both significantly related. Towards job satisfaction, external regulation (path coefficient = -0.14, $p < 0.001$) and amotivation (path coefficient = -0.22, $p < 0.001$) were significantly related. Furthermore, WFE (path coefficient = 0.11, $p < 0.05$) and FWE (path coefficient = 0.11, $p < 0.05$) were also significantly related to job satisfaction.

Figure 3 (study two) shows that intrinsic motivation is significantly linked with WFE (path coefficient = 0.44, $p < 0.001$) as was amotivation (path coefficient = -0.39, $p < 0.1$). Intrinsic motivation was also significantly linked

with FWE (path coefficient = 0.47, $p < 0.001$). The direct effects towards job satisfaction came from integrated regulation (path coefficient = 0.21, $p < 0.001$), external regulation (path coefficient = -0.18, $p < 0.1$), and WFE (path coefficient = 0.25, $p < 0.001$).

Figure 3 also provides support for Hypothesis 5, confirming the partial mediation effects of WFE (both studies) and FWE (study one only) on the direct effects of SDT motivation dimensions on job satisfaction. The structural model shows that the SDT motivation dimensions account for modest amounts of variance in study one: WFE (15%) and FWE (12%) and slightly more in study two: WFE (23%) and FWE (19%). Overall, the amounts of variance are significant for job satisfaction in study one (30%) and study two (46%). Furthermore, the partial mediation model shows that the amounts of variance towards job satisfaction increased from 25% to 30% (a 5% increase) in study one and 39% to 46% (a 7% increase) in study two.

Additional Analysis

Insert Table 4 about here

We conducted further analysis on the data in order to better understand the characteristics of SDT motivations, work-family enrichment and job satisfaction. From table 4 we can see that the mean scores for all three self-determined motivation dimensions were significantly higher for CEOs (all $p < .01$) compared to junior/senior leaders. CEOs were significantly lower on amotivation and

external regulation (both $p < .001$), but were also higher on introjected regulation ($p < .01$) compared to junior/senior leaders. While there was no difference in enrichment from either dimension, CEOs also reported significantly higher job satisfaction ($p < .001$). Overall, these findings indicate that leaders' formal positions may relate to their motivation and job satisfaction, with CEOs more likely to show a greater degree of autonomous motivation and less controlled motivation (and amotivation), and are more likely to be satisfied in their jobs ($M=4.2$ v. $M=3.6$).

DISCUSSION

The antecedents of job satisfaction are established and include motivations (albeit different measures from SDT), and work-family enrichment; however no study of leaders has included both these dimensions and tested the relationships between these constructs. We found that internal factors, such as leaders' motivations, influenced external factors, such as enrichment, and these in turn influenced job satisfaction. Thus providing a greater understanding of the process in which leader's job satisfaction can be understood. We now explore the major themes from the findings, specifically (1) self-determined motivations, (2) non-self determined motivations, (3) work-family enrichment, (4) mediating effects, and (5) leadership differences, and we combine findings from both studies into each theme.

Self-Determined Motivations

In study one we find support for motivation working through enrichment towards job satisfaction but only for self-determined motivation. While all three self-

determined motivation dimensions were significantly correlated with WFE, FWE, and job satisfaction, the best fit structural model (partial mediation) supported a fully mediated relationship, where all three self-determined motivations worked through both dimensions of enrichment and in turn, both enrichment dimensions predicted job satisfaction. As such, we find support for our argument that self-determined motivation influences leaders' enrichment from both their work and family domains, and these, in turn, lead to greater satisfaction with their jobs.

In study two (CEOs) we also find support for these effects, although not to the same extent as with study one. Specifically, intrinsic motivation was positively related to WFE and FWE, integrated regulation did not relate to either enrichment dimension, but was directly related to job satisfaction. Thus, for CEOs, integrated dimension of self-determined motivation was not mediated by enrichment, but directly influential on CEO's job satisfaction.

In both studies, integrated regulation was significant in understanding leaders' job satisfaction, and it was fully mediated by WFE in study one (junior/senior managers). This is an important finding: many studies in SDT motivations do not use the integrated dimension (Trembley et al., 2009), yet we found it significant in understanding job satisfaction in *both* studies of leaders. This finding supports the inclusion of integrated regulation within workplace research, especially of leaders. Importantly, the concept of integrated regulation (whether on its own or working through WFE), suggests that when leaders feel the values of the organisation are meaningful, and that these values reflect their own beliefs and values, this culminates in enhanced wellbeing for the leaders. This was

previously unknown, despite the importance of self-congruent values in the leadership literature (Spreitzer, 2006).

Identified regulation was not significant for the CEO study. However it worked indirectly through WFE for junior and senior leaders. This could be because lower level leaders, have less chance of projecting their personal values across all organisational activities. Hence, CEOs maybe able to drive their organisations according to their own personal values (integrated), while lower level leaders may identify with organisation values, but do not have the power to modify or drive these organisation values to reflect their own beliefs and values. Identified regulation may hold little influence on the job satisfaction and enrichment of CEOs as this reflects a lower level of internalisation that CEOs may no longer need to invoke. However, for lower level leaders identifying with the values and beliefs of the organisation or activity is important for their wellbeing. As such, identified regulation is important in understanding junior/senior leaders' job satisfaction.

In summary, the self-determined motivations (intrinsic, integrated and identified) work through work-family/family-work enrichment and improving job satisfaction for lower level leaders. Similarly intrinsic and integrated motivations work through the work family/family-work interface for CEOs. Together these studies, generally, suggest that the higher quality (self-determining) motivations work in combination with the work-family interface to enhance job satisfaction, although there are differences in how this manifests over the different leadership levels.

Non-Self Determined Motivations

Across the two studies of leaders we found consistency in terms of introjected regulation, which was unrelated to both dimensions of enrichment, and job satisfaction. One potential explanation is that introjected motivation which is reliant on increasing ego and external evaluations of success and worth, may run counter to both family life (FWE) and personal feelings of job satisfaction. This finding, over the two leadership studies, is important as it runs contrary to the findings of Tremblay et al., (2009) who found that introjected regulation was related to job satisfaction within the military. As such, leader's motivation differs from other contexts, and the external reliance and need for outwards approval (i.e. approval for ego) is not congruent with their job satisfaction. This was previously unknown.

In both studies, external regulation was directly and negatively related to job satisfaction, and so, consistent with the SDT literature, it is likely that those leaders who work only for pay or to avoid punishment feel constrained and uninterested in the work itself, having lower job satisfaction. Interestingly, for study one, external regulation was *positively* related to FWE. We suggest that lower-level leaders whose motivation is driven by pay may still experience to greater FWE because the *pay itself* may provide for enhanced family life (e.g. higher quality vacations), and thus this type of non-self determined motivation may actually be beneficial for lower-level leaders. Finally, in study one, amotivation was negatively related to job satisfaction, while in study two, for CEOs, the relationship was indirect, and significantly and negatively related to WFE. As such, this suggests that CEOs who are amotivated take this lack of

enthusiasm into the workplace and ultimately through to the home. This was previously unknown and again supports using the six dimensions of SDT motivation.

Overall, there are a number of direct effects towards job satisfaction from the non-self determined motivation dimensions, and thus it appears that there is less evidence of an indirect effect of work-family enrichment towards job satisfaction. This suggests that non-self determined motivation, as the lowest quality form of motivation, is less likely to be influenced by work-family and family-work enrichment, and instead it directly influences job satisfaction. As such the external nature of the family role has limited influence on leaders' internal motivations, or lack thereof.

Work-Family Enrichment

Overall, in both studies we find strong support for WFE being positively related to job satisfaction and strong support for FWE being positively related in study one. Perhaps CEOs (study two) are so entwined and focused on their jobs, that the family-work domain is not sufficiently strong enough to beneficially influence their feelings towards their job. While meta-analyses have supported both domains influencing job satisfaction (McNall et al., 2010), there is evidence in the literature of WFE being the dominant predictor of job satisfaction, and therefore, the lack of support for FWE towards job satisfaction for CEOs is not surprising. Indeed a more recent meta-analysis suggested that, towards job satisfaction, WFE is likely to dominate (Shockley & Singla, 2011). Furthermore, as we note above,

this finding may reflect the unique perspectives of the CEO towards job satisfaction.

Mediating Effects

Overall, the partial-mediation model was superior to the direct-effects and fully-mediated effects models for both studies. In particular, we find strong and consistent support that self-determined motivations are better understood as working through work-family enrichment rather than as direct predictors of job satisfaction. In study one, self-determined motivations are fully mediated by enrichment, while they are partially mediated in study two, where integrated regulation directly influenced job satisfaction. Furthermore, both studies showed evidence of partial mediation, with non-self determined motivations working through WFE and FWE to influence job satisfaction, further supporting our mediated hypotheses.

We suggest that studies exploring motivation dimensions as a predictor of job satisfaction need to provide greater attention to the potential influence of WFE. By excluding enrichment, studies might over-state the direct impact of motivations on job satisfaction, especially self-determined motivations dimensions. However, further testing is required to generalize these findings, including on other levels of employees.

Leadership Differences

The two studies also allow us to make some comparisons between the two groups of leaders (junior/senior leaders and CEOs). Overall, CEOs reported significantly higher levels of self-determined motivation and significantly lower levels of non-

self-determined motivation, except for introjected regulation. They also reported significantly higher levels of job satisfaction but no difference towards WFE and FWE. This raises the question of whether having higher levels of self-determined motivation marks one out as ‘CEO-material’ or do these types of motivations develop and change when one becomes a CEO and enjoys greater autonomy and freedom? While we find evidence of a significant difference, further research is required to understand how these differences develop over time, and what drives such increases in self-determined motivations. The one curious finding was CEOs reporting higher levels of introjected regulation, which relates to ego by positive external evaluations. We suggest this simply highlights the external interest and attention CEOs attract, especially from external stakeholders, compared to lower-level leaders.

Research Implications

The CFA in SEM confirmed the six dimensional structures of motivations, supporting Tremblay et al.’s (2009) findings and the dimensions of work-family and family-work enrichment and job satisfaction were found to be distinct from each other. Future studies might test motivations longitudinally to see whether motivations change over time for leaders, especially through the junior to senior leadership stage as leaders move into CEO positions. Researchers could investigate under which situations and conditions leaders move from (say) identified to integrated forms of regulated motivations. This might be explored through (1) daily diary studies to explore daily levels of fluctuations and (2) longitudinal studies to provide insight into the role of motivations and how these may be shaped and developed.

Limitations

The present study, while providing strong support for the relationships tested here, has some limitations. Firstly, while this study draws on two samples of leaders, providing greater generalizability of findings, it is still focused on a particular professional job type - leaders. Future studies may test whether leaders motivations crosses over to employee motivation and job satisfaction, extending the findings here. Further research across different sectors of leadership may also yield different results. For example, Not-for-Profits (i.e. Pet Protection Leagues) may operate from a different values base and this may influence job satisfaction in leaders differently from leaders creative industries (more congruent with the intrinsic motivation dimension). Clearly greater research is required.

A limitation common to the Organisational Behaviour literature is the potential for common method variance, however, the cross-sectional nature of data collection, the collection of independent and dependent variables at separate times, and the use of SEM (Kenny, 2008) does limit the potential influence of common method variance. Furthermore, our use of two differing samples and the overall commonality in effects found (a partial-mediation model) provide us with greater confidence in our findings. However, we encourage further research, including the SDT motivation and work-family enrichment dimensions.

Conclusion

Leaders who are satisfied at work are likely to be a positive source of influence within the organisation. Job satisfaction remains one of the most common measures of

employee wellbeing, and it has both personal and organisational benefits (Harter, 2010), making it salient in human resource management and in leadership. Overall, the present study was centered on understanding the influence of SDT motivation on job satisfaction via work-family enrichment, and this was largely supported across the majority of dimensions. By testing these relationships over two studies of leaders, from numerous organisations in New Zealand, this study aids our confidence in generalising these findings, at least amongst leaders. To our knowledge, this is the first study to test the influence of various motivation dimensions towards job satisfaction, including testing the potential mediating effects of work-family enrichment, and therefore provides a unique contribution to the human resources literature. The implications are that the type of motivations a leader has will ultimately influence his or her own wellbeing, and as such, human resource managers and leaders themselves should strive towards crafting the job to enhance its self-determined appeal. Furthermore, greater awareness of the potential benefits of work-family enrichment (WFE) and the role it may ultimately have on job satisfaction is advised. This way, the potential benefits of WFE will be more positive and advantageous for leaders, their employees, families and wider stakeholders.

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TABLES AND FIGURES

Table 1: Results of Confirmatory Factor Analysis for Study Measures

Model Fit Indices						Model Differences			
Model	χ^2	df	CFI	RMSEA	SRMR	χ^2	Δ df	p	Details
Study 1 (Leaders)									
Model 1. 9-factor model	588.7	288	.95	.05	.06				
Model 2. 8-factor model	1186.1	296	.84	.09	.07	597.4	8	.001	Model 2 to 1
Model 3. 5-factor model	1968.5	314	.71	.12	.13	1379.8	26	.001	Model 3 to 1
Study 2 (CEOs)									
Model 1. 9-factor model	400.9	288	.96	.04	.06				
Model 2. 8-factor model	843.6	296	.79	.10	.10	442.7	8	.001	Model 2 to 1
Model 3. 5-factor model	1073.4	314	.71	.11	.13	672.5	26	.001	Model 3 to 1

Model 1= Hypothesized 9-factor model: Three self determined motivations: intrinsic motivation, integrated regulation and identified regulation; three non self determined motivations: introjected regulation, external regulation and amotivation; two enrichment dimensions: WFE, FWE; and job satisfaction. **Model 2**= Alternative 8-factor model: Three self determined motivations: intrinsic motivation, integrated regulation and

identified regulation; three non self determined motivations: introjected regulation, external regulation and amotivation; combined enrichment dimensions: WFE, FWE; and job satisfaction.

Model 3= Alternative 5-factor model: Combined self determined motivations: intrinsic motivation, integrated regulation and identified regulation; combined non self determined motivations: introjected regulation, external regulation and amotivation; two enrichment dimensions: WFE, FWE; and job satisfaction.

Table 2: Correlations and Means of Study Variables

Variables	Study 1		Study 2		1	2	3	4	5	6	7	8	9
	M	SD	M	SD									
Motivation:													
1. Intrinsic Motivation	3.7	.88	4.0	.64	--	.25**	.13	.12	-.26**	-.19**	.33**	.34**	.31**
2. Integrated Regulation	3.4	.99	3.7	.85	.56**	--	.23**	.18**	.14	-.04	.23**	.11	.32**
3. Identified Regulation	3.2	1.0	3.5	.80	.49**	.57**	--	.29**	.39**	.12	.07	.15*	.09
4. Introjected Regulation	3.1	1.1	3.3	.92	.35**	.37**	.44**	--	.26**	.15*	.03	.14	-.02
5. External Regulation	3.5	.96	3.2	.81	-.01	.04	.20**	.25**	--	.24**	-.13	.01	-.16*
6. Amotivation	1.9	.91	1.3	.48	-.10*	-.08	-.01	.26**	.08	--	-.23**	-.11	-.25**
Enrichment:													
7. WFE	3.3	.81	3.3	.72	.28**	.30**	.30**	.15**	.05	-.04	--	.37**	.43**
8. FWE	3.8	.73	3.9	.68	.25**	.12*	.12**	.05	.14**	-.12*	.49**	--	.18*
Job Outcome:													
9. Job Satisfaction	3.6	.70	4.2	.54	.29**	.31**	.26**	.10	-.13*	-.23**	.29**	.22**	--

Leaders N=386, CEOs N= 205 (top diagonal). *p< .05, **p< .01.

Table 3: Model Comparisons for Structural Models

			Model Fit Indices						
Model	χ^2	df	CFI	RMSEA	SRMR	χ^2	Δ df	p	Details
Study 1 (Leaders)									
1. Direct Effects Model	608.5	290	.94	.05	.06				
2. Full Mediation Model	644.9	294	.94	.06	.07	36.4	4	.001	Model 2 to 1
3. Partial Mediation Model	588.7	288	.95	.05	.06	19.8	2	.001	Model 1 to 3
						56.2	6	.001	Model 2 to 3
Study 2 (CEOs)									
1. Direct Effects Model	436.9	291	.94	.05	.07				
2. Full Mediation Model	453.2	295	.94	.05	.08	16.3	4	.01	Model 2 to 1
3. Partial Mediation Model	418.4	289	.95	.05	.07	18.5	2	.001	Model 1 to 3
						34.8	6	.001	Model 2 to 3

Table 4 : T-Test for Differences in Study Variables between Leaders (study one) and CEOs (study two)

	Leaders (n=386)		CEOs (n=205)		
Variables	M	SD	M	SD	Difference
<i>SDT Motivation Dimensions:</i>					
Intrinsic Motivation	3.7	.88	4.0	.64	4.320***
Integrated Regulation	3.4	.99	3.7	.85	2.823**
Identified Regulation	3.2	1.0	3.5	.80	3.143**
Introjected Regulation	3.1	1.1	3.3	.92	2.680**
External Regulation	3.5	.96	3.2	.81	-4.261***
Amotivation	1.9	.91	1.3	.48	-8.401***
<i>Enrichment Dimensions:</i>					
WFE	3.3	.81	3.3	.72	-1.133
FWE	3.8	.73	3.9	.68	1.494
<i>Job Outcome:</i>					
Job Satisfaction	3.6	.70	4.2	.54	8.347***

*p< .05, **p< .01, ***p< .001

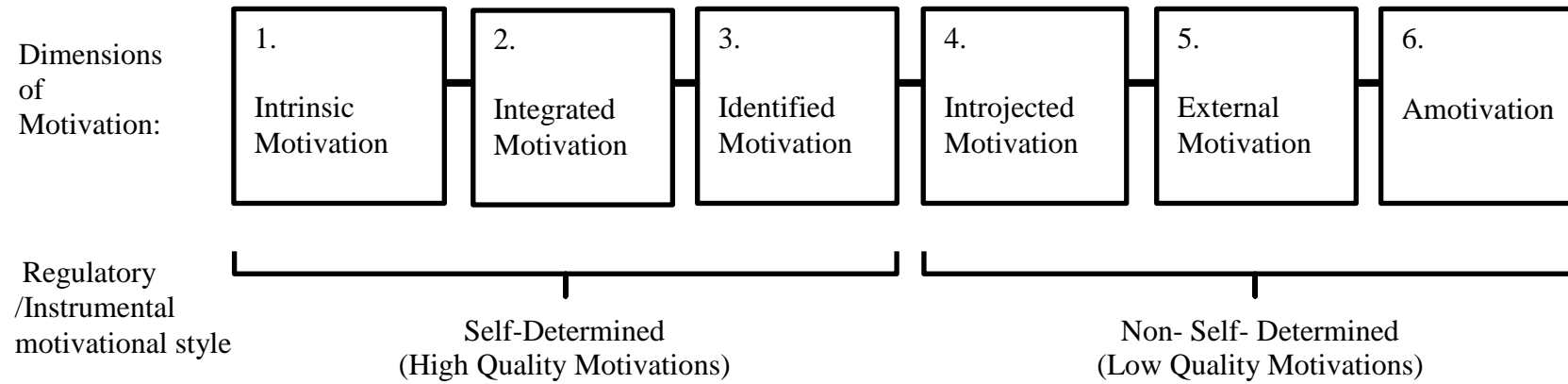


Figure 1: Motivation and Regulation Type (Adapted from Tremblay et al., 2009)

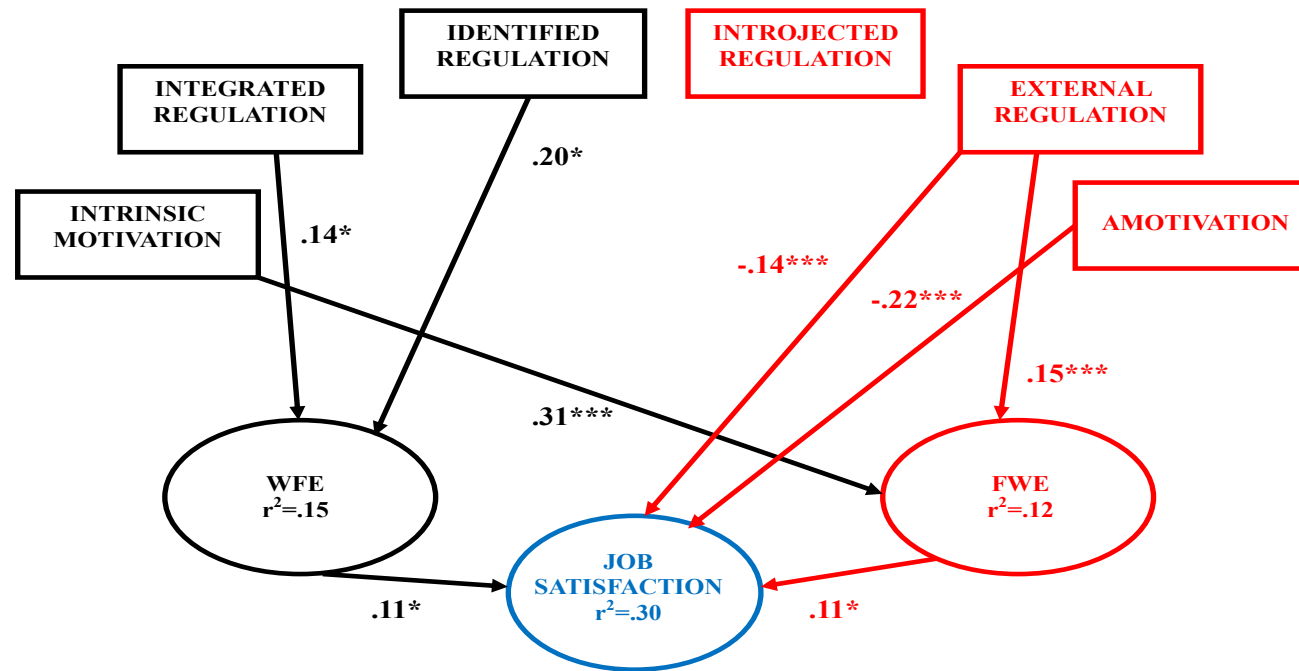


Figure 2: Final Structural Model Study 1 (Partial Mediation Effects)

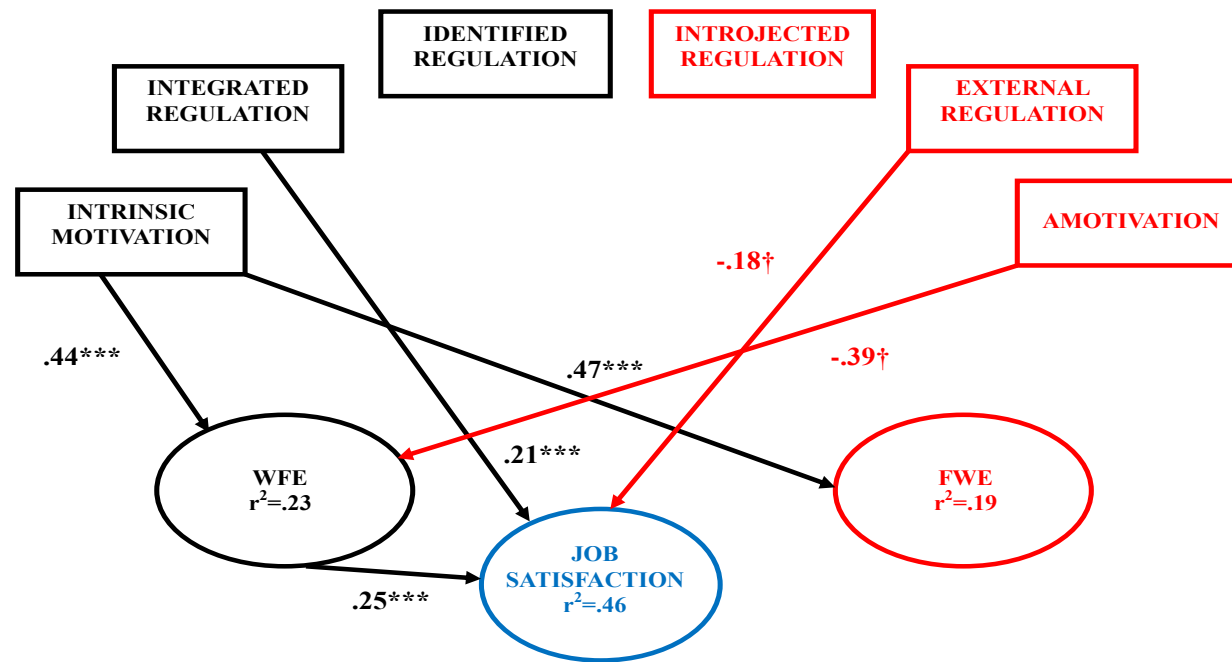


Figure 3: Final Structural Model Study 2 (Partial Mediation Effects)

CHAPTER 5

MINDFULNESS

Paper title:

Responding to the Pressure: The Role of Mindfulness and Psychological Capital on the Well-Being of Organizational Leaders.

Declaration

I developed the overall theoretical model and direction of the paper. I instigated data collection in conjunction with the second author (Professor Haar) and I had overall responsibility for the collection of data, which included three data sets (junior and senior leaders and CEOs). Sample 4 (entrepreneurs) data was collected by my supervisor in conjunction with his own research project. I was responsible for data entry and cleaning and completed the initial statistical analysis for the paper in SPSS. I ran the initial regression analysis for samples 1 to 4. I wrote the first full draft of the paper. Thus, the development and theoretical contributions made in this paper are, therefore, largely my own.

The second author (Professor Haar) guided the regression process, particularly the mediated regression process, for the first sample. Overall he checked and confirmed the statistical analysis for all four samples and provided feedback on the paper and editing advice.

The third co-author (Professor Luthans) contributed to the theoretical development of the paper through his expertise on psychological capital only. I met Professor Luthans at Academy of Management and at that stage we discussed slight improvements to the psychological capital aspect of the paper. He also reviewed and added to the overall style of the paper, and subsequently became a third author and minor contributor.

The final version of the paper was edited by an editor.

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Conference/s

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Roche, M. A., & Haar, J.H. (2012, August). *Eastern mindfulness, psychological capital and leaders' mental health: A multi-sample effects study*. Paper presented at the Academy of Management Conference, Boston, MA.

Roche, M. A. & Haar, J. M. (2011, November). *Mindfulness and moods: A three way study of New Zealand leaders*. Paper presented at the New Zealand Positive Psychology Conference, Auckland, New Zealand.

Special note on formatting, language and layout

As the following paper has been submitted to the above journal, the layout, referencing and language used is as required by the journal editors.

ABSTRACT

In today's highly competitive and extremely complex global economy, organizational leaders at all levels are facing unprecedented challenges. Yet, some seem to be handling the pressure better than others. Drawing from self determination theory (SDT), utilizing four samples of top (N=205), middle (N=183), and junior (N=202) managers, as well as 107 entrepreneurs, we tested the direct effect that their level of mindfulness and the mediating effect of their psychological capital has on their mental wellbeing. In all four samples, mindfulness was found to be negatively related to various dysfunctional outcomes such as anxiety, depression and negative affect of the managers and burnout (i.e., emotional exhaustion and cynicism) of the entrepreneurs. For all four samples, psychological capital provided partial mediation effects on the negative relationship between mindfulness and the dysfunctional outcomes. The study

limitations, future research and practical implications of these findings conclude the article.

Keywords: mindfulness; psychological capital; mental well-being; leaders' well-being; mindfulness of leaders; psychological capital of leaders.

INTRODUCTION

Depression, anxiety and negative affect are antithetical to wellbeing and flourishing. Currently, leaders at all levels of organizations are under ever increasing pressure due to the competitiveness and complexity of the global economy. There is considerable evidence that this turbulent environment has taken its toll on organizational leaders' mental wellbeing (Melchior, Avshalom, Milne, Danese, Poulton, & Moffitt, 2007; Andrea, Bultmann, van Amelsvoort & Kant, 2009). Positive psychology (Seligman & Csikszentmihalyi, 2000; Snyder & Lopez, 2002), positive organizational behavior (Luthans, 2002; Luthans & Avolio, 2009; Wright, 2003) and positive global leadership (Youssef & Luthans, 2012) have emerged to help counter balance the spiralling negativity to make today's leaders more effective.

Despite the help offered by this positive approach, to date, little attention has been specifically given to potential positive antecedents and mediators that may be able to counteract the dysfunctional outcomes of the pressures facing today's organizational leaders. Although the positive organizational behavior perspective and the identification and use of positive psychological resources (i.e., psychological capital) have been empirically demonstrated to have an impact on employees' desired attitudes, behaviors and performance in the workplace (for a recent meta-analysis, see Avey, Reichard, Luthans & Mhatre, 2011), the impact

that positive antecedents and mediators may have on the mental wellbeing of leaders themselves has been given very little research focus. The purpose of this study is to test the direct effect that the recently recognized in organizational behavior and leadership literature concept of mindfulness, and the mediating effect that the now widely recognized core construct of psychological capital (PsyCap), may have on all levels of organizational leaders' and entrepreneurs' dysfunctional mental wellbeing outcomes (i.e., anxiety, depression, negative affectivity, emotional exhaustion and cynicism).

Although receiving recent attention, the construct of mindfulness goes back to ancient Eastern philosophy (Brown & Ryan, 2003; Brown, Ryan & Creswell, 2007). A mindful person has heightened awareness of the present reality and gives attention to living the moment. The recent surge of clinical research attests to its beneficial psychological properties, specifically providing evidence of its positive relationship with one's wellbeing (e.g., Brown & Ryan, 2003; Weinstein, Brown & Ryan, 2009; Weinstein & Ryan, 2011) and stress reduction (e.g. Shapiro, Astin, Bishop & Cordova, 2005). However, despite the current popularity in the clinical and self-help literature, mindfulness has only recently found its way into the management and organizational behavior field (e.g., Avey, Wernsing & Luthans, 2008; Dane, 2011; Glomb, Duffy, Bono & Yang, 2011). Specifically, mindfulness has been offered as a potential valuable wellbeing resource for employees (Weinstein & Ryan, 2011), but has not yet been tested as an antecedent of combating dysfunctional outcomes that detract from the mental wellbeing of organizational leaders.

This study seeks to contribute to the better understanding of the role that mindfulness may play in leader wellbeing in three ways. First, we test the role of mindfulness on a wide range of leaders in various leadership positions and roles. Our four samples include senior managers (CEOs and/or presidents), middle managers and junior managers, so as to answer the call to do leadership research at all levels of the organization (De Church, Hiller, Murase, Doty & Salas, 2010). Our fourth sample is entrepreneurs, as they share common, yet still different pressures, leadership characteristics and wellbeing outcomes, in order to extend generalizability of our findings (Cogliser & Brigham, 2004; Jensen & Luthans, 2006). Second, across the four separate samples, we analyze a wide range of dysfunctional mental wellbeing outcomes in leaders. Third, because of the established positive role of psychological capital (PsyCap) on attitudes, behaviors and performance, we examine the potential mediating effects it may have on the relationship between leaders' mindfulness and the dysfunctional wellbeing outcomes across all samples.

SELF DETERMINATION THEORETICAL FOUNDATION FOR MINDFULNESS

Self-determination theory (SDT) (Deci & Ryan, 2000) has become an increasingly employed framework for the theoretical understanding of eudaemonic wellbeing (Iles et al., 2005). Specifically, SDT suggests that wellbeing is facilitated through autonomous striving to broaden knowledge, connect with people, seeking challenges and to integrate these experiences into an authentic sense of self. Importantly, this motivation is regulated by one's self (Ryan & Deci, 2008; Vansteenkiste, Neyrink, Niemiec, Soenens, De Witte & Van den Broeck, 2007;

Deci & Ryan, 2000). A longstanding tenet of SDT is that autonomous forms of behavior and regulation lie in awareness (Ryan et al., 2008).

Recently, SDT research has specifically incorporated mindfulness into its framework as an inner resource that supports more autonomous functioning, and thus facilitates wellbeing (Brown & Ryan, 2003). Mindfulness has been found to be important in disengaging individuals from automatic and dysfunctional thoughts, habits, and behavioral patterns. Mindfulness has been found to play a key role in developing informed and self-endorsed behavioral regulation, which has long been associated with wellbeing (Ryan & Deci, 2008), as well as enhanced leadership efficacy (Hannah, Woolfolk, & Lord, 2009). In particular, SDT research has focused on the relationship between mindfulness, stress, and self-regulation (Weinstein, Brown, & Ryan, 2009; Weinstein & Ryan, 2011).

Mindfulness is characterized by an open, receptive, and non-judgmental orientation to the present (Martin, 1997). Brown and Ryan (2003) purport to measure mindfulness as “the presence of attention to, and awareness of, what is occurring in the present moment” (p. 824). As used in this study, mindfulness refers to an open state of mind where the leader’s attention, informed by a sensitive awareness, merely observes what is taking place: worry about the future and negative ruminations or projections are brought back to the present moment where the situation is seen for what it is. Crucial to this meaning of mindfulness is the internal awareness of the leader’s perception and attention to the current situation, without reflexive judgement and categorization of the situation (Brown & Ryan, 2003; Brown et al., 2007). As such, this meaning of mindfulness differs from conventional Western conceptions of mindfulness, which are more

concerned with external evaluations of events and goal orientated behaviors (for a comprehensive review see Weick & Putman, 2006).

Brown and Ryan (2003) view awareness as the background ‘radar’ of consciousness, implying the ongoing monitoring of the inner (mind and body) and outer environments. However, a person may be aware of stimuli without any one stimulus being at the center of attention. Attention is a process of focusing conscious, sustained awareness, and hence heightens sensitivity to a limited range of stimuli (Brown & Ryan, 2003). Both attention and awareness are constant features of normal daily functioning, and mindfulness is considered to be the enhanced attention to and keen awareness of current experience or present reality (Brown & Ryan, 2003; Brown et al., 2007). Therefore, mindfulness is compromised when leaders behave compulsively or automatically, without awareness of, or attention to, their senses, behavior and underlying thought tendencies (Brown & Ryan, 2003; Deci & Ryan, 2000).

To date, clinical psychology research on mindfulness has been mainly used in terms of interventions and therapeutic programs, and findings indicate decreases in anxiety, depression, stress, and less mood disturbance (Specia, Carlson, Goodey & Angen, 2000; Glomb, et al., 2011; Brown et al., 2007). In addition, there is evidence that individual mindfulness can be enhanced, i.e., this psychological resource can be developed, and can also be assessed at the dispositional level (Brown, Kasser, Ryan, Linley & Orzech, 2009; Dane, 2011; Ryan & Deci, 2008).

The Mindfulness Awareness and Attention Scale (MAAS) captures the Eastern oriented notion of mindfulness (Brown & Ryan, 2003). A series of studies

using the MAAS have found that individuals with higher mindfulness were more resistant to stress as they coped more effectively with such events. For example, participants scoring highly on the MAAS report less stress, and they use constructive and non-avoidant coping strategies in response to stress, a linkage that has also been demonstrated in related mindfulness research (Weinstein & Ryan, 2011). Mindfulness has been found to be positively related to relationships satisfaction, clarity of emotional states, and enhanced mood repair, and negatively associated with rumination, social anxiety, and psychological distress (Chambers, Gullone & Allen, 2009; Dekeyser, Raes, Leijssen, Leysen & Dewulf, 2008). In a sample of students, Schutte and Malouff (2011) recently found higher levels of mindfulness were associated with greater emotional intelligence, higher levels of positive affect, lower levels of negative affect, and greater life satisfaction.

Despite the growing evidence of the value of mindfulness, it has been tested predominately in clinical or student settings and remains nascent in workplace settings and with regard to leaders' wellbeing (Allen & Kiburz, 2011). Dane, (2011), Glomb et al. (2010) and Weinstein and Ryan (2011) provide recent reviews of mindfulness and allude to the potential value of examining mindfulness and its contributions to work-related outcomes such as task performance and stress reduction. While research in the workplace is sparse, Allen and Kiburz (2011) have tested MAAS on 131 working parents and found mindfulness was positively related to work-family balance. Hence, the beneficial effects of mindfulness does appear to also apply to employees and workplace issues. However, mindfulness has not yet been explored as an antecedent for

leaders' mental wellbeing as measured by a wide variety of dysfunctional outcomes resulting from today's pressure-packed environment.

DYSFUNCTIONAL OUTCOMES AND DERIVATION OF STUDY HYPOTHESES

Commonly recognized dysfunctional outcomes resulting from the pressures facing today's managers are anxiety, depression and negative affect. Moreover, especially associated with entrepreneurs would be burnout with its associated dysfunctions of emotional exhaustion and cynicism. These are obviously not the only dysfunctional outcomes managerial and entrepreneurial leaders may experience, but they were chosen for this study based on prior related research and were deemed to be best representative of the problems resulting from the pressures managers and entrepreneurs are currently facing. After summarizing the background of each, we formulate hypotheses of their relationship with leaders' mindfulness.

Anxiety and Depression

There is evidence of strong commonality and shared risk factors between depression and anxiety (Melchior et al., 2007). Thus, workers exposed to stressful work conditions could be at increased risk of both depression and/or anxiety and in this study we examine both of these related yet separate dimensions of mental wellbeing. Anxiety can have acute psychological repercussions which may include hypersensitivity and chronic worrying (Kennerley, 1995), as well as a decreased capacity for concentration, memory, perception, appetite and sleep function (Baruch & Lambert, 2007). This diverse range of behaviors, which are implicated as a result of a person's anxiety, can lead to physiological and

psychological disruption in the workplace. Lazarus and Folkman's (1984) model of anxiety depicts the process by which anxiety is influenced by interaction between the evaluation of external and internal processes.

Low and manageable levels of anxiety are a normal response to perceived stressors, and, as such, cognitive recognition of this emotion could trigger coping mechanisms (Baruch & Lambert, 2007) such as mindfulness. We suggest leaders face numerous prospects for anxiety as a consequence of decision making and organizational performance pressures, especially in the complex and changing nature of the current global economy.

Depression is one of the most common and widely experienced mental illnesses with an estimated 50 percent of all adults affected to some degree during their lifetimes (Ramsey, 1995). Gray (2008) defined depression as a general state of malaise, pessimism and/or despondence. Depression is characterised by a number of behaviors, including persistent and prolonged melancholy, sleep disturbances, fatigue, limited ability to think or concentrate, loss of pleasure in something usually enjoyed, and feelings of worthlessness (Braus, 1991; Shoor, 1994). In the workplace, depressive symptoms may manifest as a lack of enthusiasm, frequent complaining, reduced productivity, aggressive behavior, decreased career interest, and absenteeism (Gray, 2008). Depression may also influence an employee's relationships with co-workers, particularly where a person's job requires collaboration with others, as these working relationships may become strained, causing irritation (Johnson & Indvik, 1997). We suggest this dysfunctional impact on relationships is especially critical for leaders, who need to collaborate and interact with multiple employees. Job pressure, conflicting

and ambiguous demands, role overload, lack of job autonomy, job insecurity, hurried deadlines, and harassment have all been noted as factors contributing to depression (Ramsey, 1995; Johnson & Indvik, 1997). Thus, if leaders are depressed, this clearly limits their ability to effectively manage themselves, their workloads and employees.

Overall, Warr (1996) defined anxiety as being in a state of low pleasure but high mental arousal, and, depression as a state of low pleasure and low arousal. We suggest, aligned with findings from non-workplace settings, that mindfulness enables leaders to gain present moment awareness and attention, resulting in lower levels of anxiety and depression.

Hypothesis 1: Mindfulness will be negatively related to anxiety.

Hypothesis 2: Mindfulness will be negatively related to depression.

Negative Affect

Negative affect refers to negative moods and tendencies to experience negative feelings such as distress, nervousness and hostility as opposed to those who experience positive affect associated with feelings of calmness, serenity and happiness (Elfenbein, 2007; Watson & Tellegen, 1985). Over the years, studies have found that negative affect is associated with increased absences, turnover intentions, and actual turnover (George & Jones, 1996; Pelled & Xin, 1999; Thoresen, Kaplan & Barsky, 2003). Staw and Cohen-Charash (2005) found that negative affect was significantly and negatively related to decision-making effectiveness, interpersonal performance, and positive ratings of managerial potential.

Leadership and emotion studies have examined the processes and interactions involved in the role of leaders' emotions and the management of their teams' emotional responses (e.g., Huy, 2002). For example, Pescosolido (2002, p. 584) examined how leaders can "set the emotional tone" of a group and Sy et al. (2005) found leaders' negative moods influence employee moods and wellbeing. In other words, negative affect is associated with leadership ability, wellbeing and leadership influence and leads to the following hypothesis:

Hypothesis 3: Mindfulness will be negatively related to negative affect.

Emotional Exhaustion and Cynicism

Wright and Cropanzano (1998) state that emotional exhaustion is characterized by a chronic state of both emotional and physical depletion in employees that result from excessive job demands and continuous, long term stressors. Maslach (1978, 1982) suggests that such emotional exhaustion is an early detector of employee job burnout. Emotional exhaustion is an important outcome because of its links with lower job satisfaction and job performance, and higher turnover (Lee & Ashforth, 1996; Wright & Cropanzano, 1998). Clearly, emotional exhaustion limits leader effectiveness and wellbeing.

Employee cynicism has been described as negative attitudes felt by employees towards the organization, its executives and managers (Dean, Brandes, & Dharwadkar, 1998). Cynicism is characterised by frustration, disillusionment, contempt, and distrust toward the organization (Andersson, 1996). Cynicism is destructive to organizations, and, similar to emotional exhaustion, it incapacitates leaders' effectiveness. Given that mindfulness has been found to be beneficial for reducing burnout and stress in clinical samples (Weinstein & Ryan, 2011), we

suggest that leaders with high mindfulness have a greater awareness and attention to the present, which will ultimately lead to lower levels of emotional exhaustion and cynicism. This leads to the following study hypotheses.

Hypothesis 4: Mindfulness will be negatively related to emotional exhaustion.

Hypothesis 5: Mindfulness will be negatively related to cynicism.

PSYCHOLOGICAL CAPITAL

Drawing from positive psychology and positive organizational behavior, PsyCap is an individual's positive psychological state of development characterized by having confidence (efficacy); making positive attributions and having positive future expectations (optimism); persevering toward goals and, when necessary, redirecting paths to goals (hope); and bouncing back from adversity (resilience) (Luthans, Youssef et al., 2007). Research has clearly found that when the four psychological resources are combined, they form a higher order, core construct that is a stronger predictor of attitudes and performance than any one of the four components by itself (Luthans, Avolio, Avey & Norman, 2007).

Both self-report (Luthans, Youssef et al., 2007; Luthans, Avolio et al., 2007) and implicit (Harms & Luthans, 2012) measures of PsyCap have been developed and validated. In addition, PsyCap has been shown to add variance to desired attitudinal and behavioral outcomes beyond the demographics and well known positively-oriented constructs such as core self-evaluations, personality traits and person-organization and person-job fit (Avey, Luthans & Youssef, 2010). As indicated in the introductory comments, a recent meta-analysis of 51 independent samples (see Avey, Reichard et al., 2011) found PsyCap not only has a strong positive relationship with desirable attitudes and performance, but also

psychological wellbeing of employees (Avey, Luthans, Smith & Palmer, 2010) and negative relationships with cynicism, stress and anxiety (Avey, Luthans, & Jensen, 2009).

This growing body of knowledge on positivity in general and PsyCap in particular is now recognized in the theoretical understanding of effective positive global leadership (Youssef & Luthans, 2012). Besides leadership theory-building, there has also been research exploring the relationship between PsyCap and leadership such as the following: Jensen and Luthans (2006) found a relationship between entrepreneurs' PsyCap and their authentic leadership (Jensen & Luthans, 2006); Avey, Avolio and Luthans (2011) found that leaders' PsyCap has an impact on their followers' PsyCap; and Norman, Avolio and Luthans (2010) found that the PsyCap of leaders had an impact on their followers' trust and perceived performance of them. Finally, based on empirical research, PsyCap has recently been found to have implications for the satisfaction with and objective measures of personal relationships, health and overall wellbeing (Luthans, Youssef, Sweetman, & Harms, 2012).

More directly, Avey, Wernsing, and Luthans (2008) found that mindfulness and PsyCap were both positively related to positive emotions, and furthermore, interacted with each other, showing these constructs can both play an important role together. Based on this previous research, PsyCap is likely to play a role with mindfulness in determining leader wellbeing. We also draw from previous research on PsyCap that has tested and supported its mediating role. For example, Luthans, Norman, Avolio, and Avey (2008) found support for PsyCap mediating the effects of a supportive organizational climate towards employee

performance and Walumbwa, Luthans, Avey and Oke (2011) found collective PsyCap mediated the relationship between authentic leadership and desired team outcomes. We therefore suggest that PsyCap may have a significant influence on wellbeing in addition to mindfulness. In effect, PsyCap may mediate the influence of leaders' mindfulness in relation to their mental wellbeing outcomes. This background leads to the derivation of our final study hypothesis.

Hypothesis 6: PsyCap will mediate the influence of mindfulness towards mental wellbeing outcomes.

METHOD

Samples and Procedure

We utilized four independent samples to test the effects of leaders' mindfulness on their mental wellbeing outcomes. These four samples were: (1) junior managers, (2) middle managers, (3) senior managers, and (4) entrepreneurs. The mindfulness and PsyCap survey items used were identical for all four samples. However, for breadth and relevancy of the outcomes we used anxiety and depression for the three manager samples, negative affect for the junior and middle manager samples, and job burnout (consisting of emotional exhaustion and cynicism) for the entrepreneur sample.

To minimize common method variance (Podsakoff, MacKenzie, Lee & Podsakoff, 2003), data were collected in two waves with a time gap between surveys of two to four weeks. The first phase gathered demographic details and the questionnaires for the antecedent and mediator variables (mindfulness, PsyCap). The second survey contained all the mental wellbeing outcome measures. A cover letter briefly outlining the study and its aims was included with

the surveys, and they were hand delivered and collected by the researchers except for the top management sample that was done by mail.

Junior Manager Sample. Data were collected from 150 organizations, spread across a wide regional location in New Zealand. Junior managers were the target of this survey, and a question was included in the front of the survey to confirm they were in a first level management/supervisory position. Respondents were told that the survey was specifically targeted at non-senior management and this was confirmed in the survey. In total, 300 surveys were distributed (2-3 surveys per organization on average) and a total of 202 completing both phases of data collection were returned (50.5% response rate). On average, participants were 33.3 years old ($SD=12.4$ years), male (52%), single (55%), and non-parents (60%). Respondents worked 35.0 hours per week ($SD=12.0$ hours) and had job tenure of 4.1 years ($SD=5.0$ years), with 35.4% holding a high school degree only, 19.6% a technical college qualification, 32.8% a university degree, and 12.2% a postgraduate qualification. By industry, 64.9% were private sector, 30.9% public sector, and 4.1% not-for-profit sector.

Middle Manager Sample. Data from middle managers were collected from 150 organizations, spread across a wide regional location in New Zealand. Larger sized organizations were targeted because of the focus on middle managers. Respondents were told that the survey was specifically targeted at middle management and this was confirmed. In total, 300 surveys were distributed (2-3 surveys per organization on average) and 183 completing both phases were returned (45.8% response rate). On average, the participants were 41.9 years old ($SD=12.4$ years), male (64%), married (74%), and parents (70%).

Respondents worked 45.1 hours per week ($SD=13.0$ hours) and had job tenure of 7.4 years ($SD=7.6$ years), with 35.4% holding a high school degree only, 19.6% a technical college qualification, 32.8% a university degree, and 12.2% a postgraduate qualification. By industry, 64.0% were private sector, 27.4% public sector, and 8.6% not-for-profit sector.

Top Manager Sample. Data were collected from presidents and/or CEOs in order to test the mindfulness dimensions in the highest levels of an organization. A database was obtained from New Zealand Post which included presidents and/or CEOs from larger sized New Zealand organizations all over the country with a minimum of 50 employees. In total, 1365 surveys were mailed out with personalized details (e.g., name, titles, etc.), and a total of 205 completing both phases were returned (15.9% response rate). While this response rate is lower than the other samples, this does align with other studies targeting CEOs in New Zealand, such as 23.4% (Guthrie, 2001) and 18.2% (Gibb & Haar, 2010). However, in both those studies, respondents had to complete only one survey as opposed to the two in this study. On average, these participants were 51.3 years old ($SD=7.5$ years), male (92%), married (96%), and parents (91%). Respondents worked 54.2 hours per week ($SD=8.2$ hours) and had job tenure of 7.4 years ($SD=7.5$ years), with 13.6% holding a high school degree only, 10.6% a technical college qualification, 36.9% a university degree, and 38.9% a postgraduate qualification. By industry, 60.4% were private sector, 31.5% public sector, and 8.1% not-for-profit sector.

Entrepreneur Sample. Data was collected from entrepreneurs (i.e., those who started and/or now manage their own organization) in various industries and

sectors within a wide regional location in New Zealand. In total, 200 surveys were distributed and 107 completing both phases were returned (53.5% response rate). On average, entrepreneur respondents were 43.2 years of age ($SD=12.0$ years), male (56%), married (81%), and parents (72%). Entrepreneurs worked 45.9 hours per week ($SD=14.4$ hours) and had business tenure of 10.1 years ($SD=9.7$ years), with 32.3% having a high school degree only, 23.7% technical college qualification, 33.3% bachelor's degree and 10.8% postgraduate qualification. By sector, 83.5% of respondents were in the private sector and 16.5% public sector.

Measures

Mindfulness was measured using the 15-items of Brown and Ryan (2003) scale coded 1=never to 5=all of the time. Sample items include "I could be experiencing some emotion and not be conscious of it until sometime later", "I find it difficult to stay focused on what's happening in the present" and "It seems I am running on automatic without much awareness of what I'm doing". All 15 items are reverse scored to produce a score where the higher score indicates greater mindfulness and awareness of the present. This measure had strong reliability across all four samples ($\alpha=.91, .91, .85$ and $.90$).

Psychological Capital was measured using the PCQ-24 (Luthans, Avolio et al., 2007; Luthans, Youssef et al., 2007). This consists of four sub-scales: (1) Hope; (2) Resilience; (3) Optimism; and (4) Efficacy. This PsyCap measure has been validated (Luthans, Avolio et al., 2007) and supported in a number of studies over the years (e.g., Avey et al., 2009; Avey et al., 2010; Gooty, Gavin, Johnson, Frazier, & Snow, 2009; Luthans, Avey, Avolio & Peterson, 2010; Walumbwa, Peterson, Avolio, & Hartnell, 2010). Items are coded 1= strongly disagree, 5=

strongly agree. Sample items include “I feel confident helping to set targets/goals in my work area” (Efficacy), “If I should find myself in a jam at work, I could think of many ways to get out of it” (Hope), “I usually take stressful things at work in stride” (Resilience) and “I always look on the bright side of things regarding my job” (Optimism). Following common practice we combined the four dimensions to determine the overall psychological capital score for respondents. This measure had strong reliability across all samples ($\alpha=.90$, .89, .89 and .90).

Anxiety and Depression were measured in the three manager samples using 12-items from the Axtell, Wall, Stride, Pepper, Clegg, Gardner, and Bolden (2002) scale ranging from 1=never to 5=all the time. For each scale, respondents were presented with six adjectives and were asked to describe how often these apply to them at work. Three of the items for both anxiety and depression are reverse coded. Sample items for anxiety include “calm” and “relaxed” (both reverse coded) and “anxious” and “worried”. Sample items for depression include “enthusiastic” and “optimistic” (both reverse coded) and “depressed” and “miserable”. A high score represents higher levels of anxiety or depression. The anxiety measure had acceptable reliability across all three samples ($\alpha= .79$, .78, and .83), as did the depression scale ($\alpha= .79$.83, and .84).

Negative Affect was measured in the junior and middle manager samples through five negative items of the PANAS measure (Watson, Clark & Tellegen, 1988), coded 1=very slightly to 5=extremely. Sample items include “upset”, “irritable”, and “jittery”. This shorted five item measure has been previously validated (Song, Foo, & Uy, 2008). The negative affect measure had strong reliability in both samples it was used ($\alpha= .88$ and .88).

Job burnout was measured only in the entrepreneur sample using 10-items from the Maslach and Jackson (1981) scale, coded 1=never to 5=always. The Emotional Exhaustion dimension was measured by 5-items, sample items include “I feel used up at the end of the workday”, and “I feel tired when I get up in the morning and have to face another day on the job”. This scale had strong reliability ($\alpha=.85$). The Cynicism dimension was measured by 5-items, sample items include “I have become more cynical about whether my work contributes anything” and “I have become less interested in my work since I started this job”. This scale also had strong reliability ($\alpha=.86$).

As with other SDT studies (e.g., Brown & Kasser, 2005), demographic variables were controlled for: Age (in years), and Education (1=high school, 2=technical college, 3=university degree, 4=postgraduate qualification). Owing to the diverse nature of the samples, and in order to improve comparisons between the diverse leader samples, we also controlled for industry sector, specifically Private Sector (1=yes, 0=no) and Firm Size (total number of employees).

Analysis Techniques

Hierarchical regression analysis was used to analyze the data in all four samples. Control variables (age, education, private sector and firm size) were entered in Step 1. The mindfulness measure was entered in Step 2. Tests for mediation (Hypothesis 6) followed the steps outlined by Baron and Kenny (1986). For step one, regressions were run to determine whether there were significant relationships between predictor (mindfulness) and the dysfunctional mental wellbeing outcomes. Step two requires mindfulness to also be significantly related to PsyCap. The third step ascertains whether the mediator is related to the

variables. In this step, the predictor variable is controlled when establishing the connection between the mediator and criterion variables. Liden, Wayne, and Sparrowe (2000) maintained that the mediator should be related to the criterion variable when included in the equation with the predictor variable. If all these conditions hold, then at least partial mediation is present. If the predictor variable (mindfulness) has non-significant beta weights in the third step, then full mediation is in effect (Linden et al., 2000). If the beta weights decrease, then at least partial mediation is supported.

RESULTS

Tables 1-3 show that across all four samples, mindfulness is significantly negatively correlated with all the dysfunctional mental wellbeing variables ($-.51 < r < -.27$, all $p < .01$). Psychological capital is also significantly negatively correlated with all the mental wellbeing variables ($-.28 < r < -.44$, all $p < .01$). In all four samples, the leaders' PsyCap is positively correlated with their mindfulness ($.23, p < .05 < r < .41, p < .05$). Finally, within each sample, all mental wellbeing outcomes are significantly correlated (all $p < .01$) but not at levels of concept redundancy (i.e. $r > .75$; Morrow, 1983), thus indicating they are convergent, but also discriminant, constructs.

Insert Tables 1-3 about here

Results of the hierarchical regressions for direct effects of mindfulness to mental wellbeing outcomes (Hypotheses 1-5) and the potential mediating effects

of psychological capital (Hypothesis 6) across the four studies are shown in Tables 4-7.

Insert Tables 4-7 about here

Direct Effects of Mindfulness

Table 4 shows that for junior managers, mindfulness is significantly negatively related to anxiety ($\beta = -.28$, $p < .01$), depression ($\beta = -.36$, $p < .001$), and negative affect ($\beta = -.39$, $p < .001$). Step 2 change shows that mindfulness accounts for moderate amounts of variance for depression (11%) and negative affect (13%), and a smaller amount for anxiety (7%). Table 5 shows that for middle managers, mindfulness is significantly negatively related to anxiety ($\beta = -.31$, $p < .001$), depression ($\beta = -.28$, $p < .01$), and negative affect ($\beta = -.37$, $p < .001$). Step 2 Change shows that mindfulness accounts for moderate amounts of variance for negative affect (10%), and a smaller amount for anxiety (7%) and depression (6%). Table 6 shows that for the senior managers, mindfulness is significantly negatively related to anxiety ($\beta = -.25$, $p < .001$) and depression ($\beta = -.35$, $p < .001$). Step 2 change shows that mindfulness accounts for a moderate amount of variance for depression (12%), and a smaller amount for anxiety (6%). Finally, Table 7 shows that for the entrepreneurs, mindfulness is significantly negatively related to emotional exhaustion ($\beta = -.58$, $p < .001$) and cynicism ($\beta = -.40$, $p < .01$). Step 2 change shows that mindfulness accounts for a large amount of variance for emotional exhaustion (28%) and a more modest amount for cynicism (11%). Overall, the consistent effects provide strong support for Hypotheses 1-5.

Direct Effects of Psychological Capital

Tables 1-3 show that PsyCap is significantly positively correlated with mindfulness and negatively with all the dysfunctional mental wellbeing outcomes. These results meet the requirements of steps one and two in mediation analysis (Baron & Kenny, 1986). In all four samples, PsyCap is significantly related to all outcomes in the expected direction. The PsyCap of junior managers was negatively related to anxiety ($\beta = -.25$, $p < .01$), depression ($\beta = -.37$, $p < .001$), and negative affect ($\beta = -.26$, $p < .001$) and accounted for additional variance towards anxiety (5%), depression (12%) and negative affect (6%). The PsyCap of middle managers was negatively related to anxiety ($\beta = -.18$, $p < .05$), depression ($\beta = -.31$, $p < .001$), and negative affect ($\beta = -.21$, $p < .01$), and accounted for additional variance towards anxiety (3%), depression (9%) and negative affect (4%). For the senior managers, their PsyCap was negatively related to anxiety ($\beta = -.27$, $p < .001$) and depression ($\beta = -.35$, $p < .001$), and accounted for additional variance towards anxiety (6%) and depression (10%). Finally, the PsyCap of the entrepreneurs was negatively related to the burnout dimensions of emotional exhaustion ($\beta = -.19$, but only at the $p < .10$ level), and cynicism ($\beta = -.49$, $p < .001$), and accounted for an additional 3% variance on emotional exhaustion, but a stronger 18% for cynicism.

Mediating Effects of Psychological Capital

In all samples, PsyCap has a mediating effect on the influence of mindfulness towards all outcomes. Towards anxiety, mindfulness has a significant drop in beta weight from $\beta = -.28$ ($p = .01$) to $\beta = -.19$ ($p < .05$) in the junior manager sample, $\beta = -.31$ ($p = .001$) to $\beta = -.26$ ($p < .01$) in the middle manager sample, and

$\beta = -.25$ ($p = .001$) to $\beta = -.13$ ($p < .05$) in the top manager sample. Towards depression, mindfulness has a significant drop in beta weight from $\beta = -.36$ ($p = .001$) to $\beta = -.23$ ($p < .01$) in sample one, $\beta = -.28$ ($p = .01$) to $\beta = -.19$ ($p < .05$) in sample two, and $\beta = -.35$ ($p = .001$) to $\beta = -.20$ ($p < .01$) for the third sample. Towards negative affect, mindfulness has a significant drop in beta weight from $\beta = -.39$ ($p = .001$) to $\beta = -.30$ ($p < .001$) in sample one and $\beta = -.37$ ($p = .001$) to $\beta = -.31$ ($p < .01$) in sample two. Similarly with the entrepreneurs, PsyCap partially mediates the effect of mindfulness towards emotional exhaustion, with mindfulness having a slight drop in beta weight from $\beta = -.58$ ($p = .001$) to $\beta = -.52$ ($p < .001$). However, there is stronger evidence of mediation towards cynicism with mindfulness having a significant drop in beta weight from $\beta = -.40$ ($p = .01$) to $\beta = -.25$ ($p < .05$). Overall, the direct effects of PsyCap and the reductions in beta weights of mindfulness effects towards the mental wellbeing outcomes provides strong and consistent support for partial mediation effects, supporting Hypothesis 6.

Additional Analysis

We conducted further analysis on the data in order to better understand the characteristics of mindfulness and PsyCap. In particular, the characteristics of our samples allowed us to explore whether leadership position may play a role in the findings. The mean score for mindfulness is consistently high and well above the midpoint of 3.0 for all four samples: junior managers ($M=3.8$), middle managers ($M=3.9$), top managers ($M=4.2$), and entrepreneurs ($M=3.8$). However, ANOVA confirmed a significant difference existed among the various samples ($F=16.632$, $p=.000$) and post hoc analysis (LSD) shows that the top level managers have

significantly higher levels of mindfulness compared to the lower level leaders (all $p < .001$). The only other significant difference was middle managers were significantly higher than junior managers ($p < .05$).

The mean score for PsyCap is also consistently high and well above the midpoint of 3.0: junior managers ($M=3.7$), middle managers ($M=4.0$), top managers ($M=4.2$), and entrepreneurs ($M=3.8$). Similar to mindfulness, ANOVA confirmed a significant difference existed for PsyCap among the samples ($F=43.779$, $p=.000$) with post hoc analysis (LSD) indicating that top managers have significantly higher levels of PsyCap compared to all other leaders (all $p < .001$). While junior managers and entrepreneurs were not significantly different from each other, the PsyCap of middle managers were significantly higher than both junior managers ($p < .001$) and entrepreneurs ($p < .05$). Overall, these findings indicate that leaders' formal position relates to their mindfulness and PsyCap, with those leaders at the highest organizational levels showing greater degree of mindfulness and PsyCap than those in lower leadership positions and of entrepreneurs.

DISCUSSION

Leaders' level of mindfulness was found to be an important antecedent in combating the pressures they are currently facing. This study consistently across a wide range of leaders and organizations found a strong negative relationship between their mindfulness and dysfunctional mental wellbeing outcomes. Leaders, while trying to be a source of positive energy and growth within an organisation (Cole, Bruch & Vogel, 2011), are nevertheless realistically faced with complex, challenging and pressure-packed situations. This potentially toxic

environment calls for organizations to develop a greater understanding of leader psychological resources that can aid positive wellbeing and help fight off dysfunctional outcomes.

This study's results attest to the impact mindfulness seems to have in combating a number of dysfunctional outcomes affecting today's leaders. Mindfulness not only had direct negative effects on the dysfunctions, but further analysis found that the leaders' PsyCap served as a partial mediator between their mindfulness and these outcomes. As such, mindfulness may prove to be the type of psychological strength leaders need for their mental wellbeing in these trying times.

The present study also answers the call for the assessment of constructs at all levels of leadership (e.g., De Church et al., 2010). For example, while many studies examine supervisors or CEOs, often middle managers are excluded. By including three samples at various levels of organizations, and even extending this further to include entrepreneurs, we argue we have a wide range of leadership positions to test the effects of mindfulness, thus contributing to generalization. Our findings for junior managers, middle managers and senior managers, is that mindfulness was consistently beneficial in combating dysfunctional psychological outcomes, being negatively related to anxiety and depression, as well as being negatively related to negative affect for junior and middle managers. The consistent finding that PsyCap negatively relates to these outcomes, as well as having a partial mediation effect, also supports the beneficial and unique role of mindfulness towards leaders' wellbeing beyond the more established PsyCap construct. Finally, we extended the outcomes tested and found similar effects for

entrepreneurs towards burnout (i.e., emotional exhaustion and cynicism). Given that burnout is widely recognized as a big problem for entrepreneurs, this finding has potential personal and economic benefits for start-ups and innovative businesses in a receding economy needing job creation.

The study findings reinforce previous research that mindfulness is beneficial to stress reduction (Weinstein & Ryan, 2011) and extend the implications beyond clinical research and applications. For example, clinical research has established that mindful individuals tend to be less susceptible to psychological distress and more likely to be psychologically well-adjusted (Brown et al., 2007). We have contributed to a greater understanding of the benefits of mindfulness and extended it to leaders' wellbeing.

Additional analysis also showed that leadership level was significant in mindfulness and PsyCap. For example, senior managers had significantly higher levels of mindfulness and PsyCap compared to all other leaders including entrepreneurs. Ryan and Brown (2003) found those who score high on the MAAS appear to value intellectual pursuits slightly more than lower scorers, suggesting higher levels of mindfulness may predict greater leadership and career pursuits. However, the conjecture surrounding such findings requires further research. For example, yet to be answered is whether being more mindful and having greater PsyCap improves one's chance to be a CEO, or, alternatively, do the experiences of most CEOs lead them to develop enhanced mindfulness.

While researchers have relied on traditional interventions such as meditation to enhance mindfulness, our study suggests, like PsyCap which has been proven to be open to development (see Luthans, Avey et al., 2010; Luthans,

Avey & Patera, 2008), mindfulness may also be a “statelike” construct that has natural developmental tendencies (Brown et al. 2007). For example, SDT (Ryan, et al., 2008) suggests that mindfulness is related to the pursuit of eudaemonic wellbeing gained through self-regulated actions. Overall, the present study found mindfulness benefited leader wellbeing and these findings also have implications for leader development. Moreover, the relationship between leadership position and mindfulness PsyCap provides a new contribution to mindfulness, PsyCap and leadership.

Limitations, Future Research and Implications for Practice

Limitations of the present study relate mainly to the self-reported nature of the data gathering. However, the study variables tested depend upon self-reporting. Furthermore, while cross sectional in nature, there was a time lag between predictors and outcomes, which we noted can help to minimize the problem of common method variance (CMV) (see Podsakoff et al., 2003). As an additional test for CMV we conducted Harman’s one factor test on each sample. The resulting factor analysis (unrotated) resulted in 13 factors for junior managers (sample 1), the largest accounting for 23% of the variance; 13 factors for middle managers (sample 2), the largest accounting for 21.7% of the variance; 14 factors for senior managers (sample 3), the largest accounting for 21.1% of the variance; and 13 factors for entrepreneurs (sample 4), the largest accounting for 22.2% of the variance. Given that a single dominant factor did not emerge in any of the four samples, suggests that CMV is not an issue (Podsakoff & Organ 1986).

Overall, the multiple samples and the variety of leaders examined, while controlling for firm level constructs across all samples (sector, size), provide

support for the findings. However, like other psychological constructs, future research into mindfulness can benefit from a longitudinal study design in order to assess the role of mindfulness as leaders' progress through their careers. This is especially prevalent given our findings on differences among leader positions, specifically top level managers. Studies that attempt to better understand the causality of these relationships would provide strong insights into leader development. For example, do more mindful people become CEOs, or does being a CEO manifest in greater mindfulness? Similar research questions are raised by the PsyCap findings.

Future research could also explore the established role of mindfulness in training interventions, such as stress reduction programs or mediation. Such training and development needs to be brought into the workplace to determine their effectiveness and importance to organizational leadership. In this regard, we suggest further research in both dispositional based mindfulness and intervention based mindfulness, in order to enhance understanding of the role that mindfulness may play in developing positive leader wellbeing. As indicated, PsyCap is an established developmental construct which has been proven to be enhanced through relatively short training interventions (Luthans, Avey et al., 2010) and even when conducted on-line (Luthans, Avey et al., 2008). This PsyCap training may provide a useful guide and avenue for researchers to begin workplace mindfulness training interventions.

Furthermore, the positive leadership literatures calls for greater ethics and authenticity in leadership (e.g., Iles et al., 2005; Youssef & Luthans, 2012), and as such, mindfulness may have a role in developing ethical and authentic leaders.

For example, research could explore whether mindful leaders are more likely to make, and be aware of, ethical decisions and be aware of, and behave more authentically, than non-mindful leaders? Alternatively, and drawing from the dark side of leadership, are mindful leaders more attentive and aware of situations and therefore more likely to be drawn to self-serving and self-interested behaviors? Clearly research on the benefits, or otherwise, of mindfulness in leader development is needed.

Finally, mindfulness forms one part of the SDT research framework aimed at facilitating eudaemonic wellbeing (Ryan, et al., 2008). Future research may seek to incorporate mindfulness into a wider range of self-determination dimensions, such as motivation, aspirations and needs satisfaction. Such future research may provide a fuller view of SDT's potential as a theoretical foundation for positive leader wellbeing.

Conclusion

Leaders at all levels of organizations need more ammunition than ever before to fight off the mounting pressures and threats they are facing in their day-to-day activities and career progress. The recent rediscovery of mindfulness has surfaced as a potential useful addition to leaders' psychological defense mechanisms and make a positive contribution to their mental wellbeing. This study provides initial empirical support for the value of leaders' mindfulness, and reaffirms the direct and mediating effects of psychological capital, in combating and preventing the real and potential dysfunctional outcomes associated with leaders responding to the pressures coming from the present and future environment.

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TABLES AND FIGURES

Table 1. Means, Standard Deviations, and Correlations for Junior and Middle Managers Samples

Variables	Study 1		Study 2		1	2	3	4	5	6	7	8
	M	SD	M	SD								
1. Age	33.3	12.4	41.7	12.4	--	-.01	-.01	.45**	-.26**	-.20*	-.28**	.16*
2. Education	2.2	1.1	2.3	1.0	.17*	--	.05	-.08	.12	.11	.11	-.00
3. Firm Size	1.8	.92	1.4	.83	.17*	.12	--	-.01	.00	.01	.02	.00
4. Mindfulness	3.8	.67	3.9	.65	.32**	.06	.11	--	-.37**	-.33**	-.41**	.28**
5. Anxiety	2.6	.65	2.5	.65	-.06	.09	-.03	-.28**	--	.55**	.42**	-.21**
6. Depression	2.2	.67	2.0	.67	-.23**	.05	-.13	-.39**	-.57**	--	.52**	-.35**
7. Negative Affect	1.8	.82	1.6	.76	-.11	.06	.02	-.36**	.38**	.59**	--	-.31**
8. Psychological Capital	3.7	.47	4.0	.45	.21**	-.03	.05	.37**	-.29**	-.43**	-.36**	--

* $p < .05$, ** $p < .01$. Sample 1 (Junior Managers $n=202$) below and Sample 2 (Middle Managers $n=183$) above the diagonal line.

Table 2. Means, Standard Deviations, and Correlations for Top Managers Sample

Variables	M	SD	1	2	3	4	5	6	7
1. Age	51.3	7.5	--						
2. Education	3.0	1.0	-.01	--					
3. Firm Size	2.4	.56	.08	.18*	--				
4. Mindfulness	4.2	.42	.11	-.09	.04	--			
5. Anxiety	2.5	.66	-.32**	.12	.05	-.28**	--		
6. Depression	1.8	.56	-.21**	.01	-.12	-.35**	.61**	--	
7. Psychological Capital	4.2	.38	.02	.05	.07	.40**	-.29**	-.43**	--

* $p < .05$, ** $p < .01$. Sample 3 (Senior Managers $n=205$).

Table 3. Means, Standard Deviations, and Correlations for Entrepreneurs Sample

Variables	M	SD	1	2	3	4	5	6	7
1. Age	43.2	12.0	--						
2. Education	2.2	1.0	-.07	--					
3. Firm Size	1.3	1.1	-.20	.02	--				
4. Mindfulness	3.8	.62	.25*	.12	-.08	--			
5. Emotional Exhaustion	2.5	.84	-.30**	.02	.06	-.40**	--		
6. Cynicism	1.8	.82	-.16	.07	.03	-.40**	.50**	--	
7. Psychological Capital	3.8	.50	.24*	-.07	.09	.24*	-.23*	-.36**	--

*p < .05, **p < .01. Sample 4 (Entrepreneurs n=107).

Table 4. Hierarchical Regression Analysis for Mental Well-Being Outcomes (Junior Managers)

Variables	Junior Managers								
	Anxiety			Depression			Negative Affect		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Controls</i>									
Age	-.06	.05	.06	-.21*	-.09	-.07	-.09	.03	.04
Education	.03	.04	.02	.08	.10	.06	.09	.10	.08
Private Sector	.04	.04	.06	-.11	-.10	-.08	.02	.03	.06
Firm Size	.10	.06	.06	.06	-.01	.01	.21*	.14†	.15†
<i>Predictor</i>									
Mindfulness		-.28**	-.19*		-.36***	-.23**		-.39***	-.30***
<i>Mediator</i>									
Psychological Capital			-.25**			-.37***			-.26***
R ² change	.01	.07**	.05**	.07*	.11***	.12***	.06†	.13***	.06**
Total R ²	.01	.08	.13	.07	.17	.29	.06	.18	.24
Total Adjusted R ²	.00	.05	.09	.04	.15	.26	.03	.15	.21
F Statistic	.497	2.403*	3.484**	2.620*	5.972***	9.709***	2.078†	6.255***	7.360***

† p < .1, * p < .05, ** p < .01, *** p < .001, Standardized regression coefficients. All significance tests were single-tailed.

Table 5. Hierarchical Regression Analysis for Mental Well-Being Outcomes (Middle Managers)

Variables	Middle Managers								
	Anxiety			Depression			Negative Affect		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Controls</i>									
Age	-.22*	-.08	-.08	-.14	-.02	-.01	-.28**	-.11	-.11
Education	.09	.08	.09	.03	.03	.03	.07	.06	.07
Private Sector	.12	.05	.08	.09	.04	.08	-.01	-.09	-.06
Firm Size	.05	.03	.03	.04	.02	.02	.05	.03	.03
<i>Predictor</i>									
Mindfulness		-.31***	-.26**		-.28**	-.19*		-.37***	-.31**
<i>Mediator</i>									
Psychological Capital			-.18*			-.31***			-.21**
R ² change	.08*	.07**	.03*	.03	.06**	.09***	.09*	.10***	.04*
Total R ²	.08	.15	.18	.03	.09	.18	.09	.19	.23
Total Adjusted R ²	.05	.12	.14	.00	.06	.14	.06	.16	.19
F Statistic	2.616*	4.421**	4.507***	1.076	2.566*	4.556***	2.908*	5.716***	6.068***

† p < .1, * p < .05, ** p < .01, *** p < .001, Standardized regression coefficients. All significance tests were single-tailed.

Table 6. Hierarchical Regression Analysis for Mental Well-Being Outcomes (Top Managers)

Variables	Senior Managers/CEOs					
	Anxiety	Depression				
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Controls</i>						
Age	-.31***	-.28***	-.29***	-.18*	-.15*	-.16*
Education	.10	.07	.08	.06	.01	.03
Private Sector	.07	.08	.10	-.13	-.11	-.10
Firm Size	-.08	-.09	-.10	-.04	-.05	-.07
<i>Predictor</i>						
Mindfulness		-.25***	-.13*		-.35***	-.20**
<i>Mediator</i>						
Psychological Capital			-.27***			-.35***
R ² change	.11***	.06***	.06***	.05*	.12***	.10***
Total R ²	.11	.18	.23	.05	.17	.27
Total Adjusted R ²	.09	.15	.21	.03	.15	.25
F Statistic	5.803***	7.634***	9.112***	2.549*	7.539***	11.259***

† p< .1, * p< .05, ** p< .01, *** p< .001, Standardized regression coefficients. All significance tests were single-tailed.

Table 7. Hierarchical Regression Analysis for Mental Well-Being Outcomes (Entrepreneurs)

Variables	Entrepreneurs					
	Emotional Exhaustion			Cynicism		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Controls</i>						
Age	-.27*	-.17	-.11	-.15	-.09	.08
Education	.05	.13	.15	.03	.08	.15
Private Sector	-.03	.15	.15	-.05	.09	.08
Firm Size	-.03	.02	.03	-.04	.02	.06
<i>Predictor</i>						
Mindfulness		-.58***	-.52***		-.40**	-.25*
<i>Mediator</i>						
Psychological Capital			-.19†			-.49***
R ² change	.08	.28***	.03	.03	.11**	.18**
Total R ²	.08	.36	.39	.03	.16	.34
Total Adjusted R ²	.02	.31	.32	.01	.08	.26
F Statistic	1.244	6.352***	5.797***	.421	2.522*	4.411**

† p< .1, * p< .05, ** p< .01, *** p< .001, Standardized regression coefficients. All significance tests were single-tailed.

CHAPTER 6

PERCEIVED AUTONOMY SUPPORT (PAS)

Paper title

Team Level Perceptions of Autonomy Support and Job Outcomes: A Mediation Study.

Declaration

I developed the theoretical model for the paper. I instigated data collection in conjunction with the second (Professor Haar) and I had overall responsibility for the collection of data, which included leader and follower data sets. I was responsible for data entry, cleaning and did the initial statistical analysis for the paper in SPSS. I ran the SEM analysis with my co-author. I wrote the first full draft of the paper. The development of the paper and theoretical contributions made in this paper are, therefore, largely my own.

My co-author guided the calculations of Team PAS for team level analysis. He checked the statistical analysis in particular the SEM and helped with the mediation model tests. He provided feedback on the paper and editing. The final version of the paper was edited by an editor.

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As the following paper has been submitted to the above journal, the layout, referencing and language used is as required by the journal editors.

ABSTRACT

Self Determination Theory (SDT) asserts that autonomy supportive environments, termed Perceived Autonomy Support (PAS) enhance wellbeing and job outcomes. However, a team level analysis is missing from the exploration of PAS, and this study seeks to extend the literature by providing a team level analysis. Data were collected through surveys, from 457 employees coming from 199 teams, and employees rated PAS as well as individual outcomes. Structural Equation Modeling (SEM) was used for analysis, and potential mediation effects from job satisfaction were tested. A partial mediation model was found to fit the data best. Team PAS was positively related to job satisfaction, Organizational Citizenship

Behaviors (OCBs) and attendance behaviors, while job satisfaction was also positively related to career satisfaction, OCBs and attendance behaviors, and negatively related to turnover intentions. Overall, job satisfaction was found to fully mediate the effect of Team PAS towards career satisfaction and turnover intentions, and partially mediate the effect of Team PAS towards OCBs and attendance behaviors. The implications from this study provide support for Team PAS to be considered as central in the development and maintenance of teams as it relates to positive individual outcomes.

Key words: Perceived Autonomy Support, teams, wellbeing outcomes.

INTRODUCTION

The burgeoning research attesting to the crucial role of teams within organizations has suggested that effective team leadership is critical to the success of workplace teams (Morgeson, DeRue, & Karam, 2010). However, research around how leaders effectively manage the team experience remains limited (Morgeson et al., 2010; Zaccaro, Rittman, & Marks, 2001; Griffin, Patterson, & West, 2001). One explanation for this paucity of research is that the notions of ‘leading’ and ‘teams’ are viewed as incongruent viewpoints (Mathieu, Maynard, Rapp, & Gilson, 2008). On one hand, team work involves greater autonomy and hence less need for leadership and support, while, on the other hand supervisors’ supportive behaviors have been related to the overall satisfaction of team members (Griffin et al., 2001; Mathieu et al., 2006). Therefore, research that illuminates an understanding of the role of support and autonomy, and particularly the role that leaders play in providing for both in teams, is necessary (Griffin et al., 2001; Mathieu et al., 2008).

SDT is a theory of motivation and wellbeing which purports that the ability of leaders to enhance employees’ autonomy is a key component of success

and wellbeing within the workplace (Deci & Ryan, 2000). Autonomy is at the forefront of SDT research, suggesting that motivation, wellbeing and a variety of positive work related outcomes are the product of autonomous action. Research has generated positive results in the area of support for autonomy in the workplace, such as greater performance, engagement, change orientation and wellbeing (Lynch, Plant, & Ryan, 2005). Although these findings are predominately at the individual level, SDT research offers potential for understanding the positive role that supervisors play in enhancing both autonomy and support at the team level (Liu & Fu, 2011; Griffin et al., 2001), and this study seeks to fill the gaps in the literature. The present study tests leader support for employee autonomy at the team level, and we contribute to the literature by providing empirical evidence which shows that support for autonomy at the team level can be beneficial to employees at the individual level.

SELF DETERMINATION THEORY

SDT is based on the premise that people actively seek opportunities to develop to their fullest potential and, in striving to do so, well-being is enhanced (Deci & Ryan, 2000; Greguras & Diefendorff, 2009). SDT maintains that fulfilment of potential is gained through striving autonomously to enhance relationships and engage in challenges. These experiences are an integral part of the self and they facilitate wellbeing (Vansteenkiste, Neyrinck, Niemiec, Soenens, De Witte, & Van den Broeck, 2007; Deci & Ryan 2000). Although SDT suggests that personal experience is fundamental to wellbeing, it recognises the importance of the social context, such as the workplace, in facilitating people's ability to develop to their full potential (Deci & Ryan, 2006). The social context can be autonomy enhancing, or controlling. Autonomy enhancing contexts support wellbeing, and

the SDT view is that if the workplace environment supports autonomy then employees should experience wellbeing and growth.

Perceived Autonomy Support (PAS)

For SDT, the role of the leader is one that enhances employee perceptions of autonomy support, which is termed PAS. Fundamentally, PAS is the perception employees have with regards to the degree of autonomy they have in the workplace. Although some definitions of autonomy suggest independence within SDT (Ryff, 1989), autonomy refers to *a unity* of one's actions and influences (Gagne & Bhave, 2011). That is, autonomy is not defined by the absence of external influences such as leaders' suggestions and inputs, but rather when employees understand and may even concur with leader's actions (Ryan & Deci, 2006). For SDT, autonomy is not equivalent to independence (Ryan, 1993). For example, employees can be autonomously dependent on their leaders or may choose to be independent, where they remove themselves from the workplace (Ryan, 1993).

The relationship between leader and follower is central in understanding how to enhance PAS. Ryan, La Guardia, Solky-Butzel, Chirkov, and Kim (2005) showed that people are more prone to depend upon those who support their autonomy. In these relationships the nature of the interaction between leader and follower would be harmonious and characterized by the employee being provided with rationale, freedom and choice, in essence supporting employee's endeavours and autonomy (Williams, Gagne, Ryan, & Deci, 2002). Alternatively, less positive interactions are likely to result and employees are less likely to feel their autonomy is supported if the relationships are characterized by leaders controlling rewards (Deci, Koestner, & Ryan, 1999), or are dominated by deadlines and

evaluations (Amabile, DeJonc, & Lepper, 1976). Indeed, Deci and Ryan (2000) showed that positive reliance on others is predicted by autonomy support. Hence, unlike traditional models investigating teamwork which suggest that autonomy and supervision are antithetical (Griffin et al., 2001), SDT has continually found that people feel most related to those who actively and openly support their autonomy. Consequently, an inclusive definition of PAS is one that promotes and provides choice, freedom, rationale and support for employees' decisions (Williams, Gagne Ryan & Deci, 2002) in a climate of relatedness (Deci & Ryan, 2000; 2008).

Deci, Connell and Ryan (1989) showed that training managers to maximize employees' opportunities to take initiative, to provide informational feedback (non-controlling) and to acknowledge the employees' perspectives, improved employees' attitudes and trust in the organization and the display of other positive work-related attitudes. In research conducted in a volunteer organization Gagne (2003) found that PAS related positively to psychological wellbeing. She further found that volunteers who displayed higher psychological wellbeing, volunteered their services for longer timeframes, and were less likely to leave the organization. PAS has also been found to positively relate to higher performance evaluations, engagement in one's work (Baard, Deci, & Ryan, 2004), psychological wellbeing and change management perceptions (Lynch, Plant, & Ryan, 2005). Overall, these direct effects of PAS have been supported in relation to individual employees in a wide range of settings. However, an understanding of team perceptions of PAS is largely missing from the analysis, even though team level PAS is likely to generate a more generalized view of the autonomous 'climate' the leader creates within work teams and facilitate positive outcomes (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005). Although support for

team level PAS in encouraging employee learning has been found (Liu & Fu, 2011), research on team PAS towards employee workplace outcomes is missing from the literature, despite its acknowledged importance (Spriezter et al., 2005). The following section outlines the employee outcomes tested in this research, and the role these play in enhancing our understanding of the positive consequences of team level PAS.

JOB OUTCOMES

Job Satisfaction

Job satisfaction has been defined as a pleasurable emotional state resulting from employees' appraisals of their jobs, their achievements, and the value they place on their jobs (Locke, 1969). Job satisfaction is the most common method of assessing employee wellbeing (Judge & Klinger, 2008), although it also encompasses, broadly, feelings of leadership quality (Harter, Schmidt, Asplund, Killham, & Agrawal, 2010). Job satisfaction is related to decreased turnover intentions, greater job performance, organizational citizenship behaviors and pro-social behaviors (see Judge & Klinger, 2008). Griffin et al. (2001) found that both autonomy and supervisor support were related to job satisfaction, however the benefit of supervisor support was reduced when autonomy was enhanced. We suggest that as leaders' PAS relates to both the supportive behavior and the encouragement of autonomy, team members will have enhanced job satisfaction when leaders exhibit high PAS. This leads us to the following hypothesis:

Hypothesis 1: Team PAS will be positively related to individual job satisfaction.

Career Satisfaction

Career satisfaction focuses on the overall affective orientation a person feels towards their career (Gattiker & Larwood, 1988). Greenhaus, Parasuraman and

Wormley (1990) defined career satisfaction as the satisfaction an individual derives from the intrinsic and extrinsic aspects of his or her career; including pay, developmental and advancement opportunities (Berry, 1998). However, empirical distinctions have been established between career satisfaction and job satisfaction (Judge, Cable, Boudreau & Bretz, 1995) in that an employee may be satisfied with his or her career but may not be satisfied with other facets of his or her workplace or job (Rose, Beh, Uli, & Idris, 2006). Many positive outcomes have been identified from having higher career satisfaction, such as organization success (Judge, Higgins, Thoresen, & Barrick, 1999; Judge et al., 1995). As career satisfaction refers to the trajectory feel about their career goals, greater PAS may result in team members feelings of career advancement being met within their existing roles and jobs. Therefore, we suggest that PAS will enhance employees' feelings towards their overall careers.

Hypothesis 2: Team PAS will be positively related to individual career satisfaction.

Turnover Intentions

Turnover refers to an employee's intention to leave the organization. Much of the influence on turnover intentions is found to be in the connection employees have with the organization in terms of job factors that influence the desirability of the job, including pay, interest, motivation and social connections (Chiaburu & Harrison, 2008), as well as leadership supportive behavior (Joo, 2010). PAS has not been well explored towards turnover intentions, however other types of support have. Perceived Organizational Support (POS) refers to employees' perceptions about how supportive in general employees feel their organizations are. Meta-analyses have found POS to have a small but statistically reliable

relationship with turnover intentions (Rhoades & Eisenberger, 2002). More recently Riggle, Edmondson and Hansen (2009), using 37 POS studies with a total sample size of 12,825 employees, found POS to have a significant links with turnover intentions. They stated that “[t]here is a moderate, negative relationship between POS and intention to leave ($r = -.49$, $p < .001$)” showing that support is likely to influence turnover. Furthermore, in Chiaburu and Harrison (2008) found in their meta-analyses that co-worker support was also negatively linked to turnover intentions. Overall, we argue that feelings of autonomy and support are likely to reduce team members’ intentions to leave the organization. This leads to the following hypothesis:

Hypothesis 3: Team PAS will be negatively related to individual turnover intentions.

Organization Citizenship Behaviors

Organ (1988) described OCBs as the non required contributions to the workplace that employees regard as less likely to lead to formal rewards. However, these behaviors still contribute to the overall positive functioning of the organization (Organ, Podsakoff, & MacKenzie, 2005). Examples of OCBs include employee willingness to follow rules, persist, volunteer, help and cooperate with others (Borman & Motowidlo, 1993). Organ et al. (2005) found that when OCBs were performed they were a benefit to both the organization, and co-workers. This links with Salam, Cox and Sims (1996), who argued that OCB is really interactive and ‘social’ in nature and includes behaviors such as helping others, as well as assisting supervisors, taking time listening to others, helping new employees and passing along information to co-workers (Chen, Niu, Wang, Yang, & Tsaur 2009). Thus, in line with Yaffe and Kark (2011) we expect that OCBs will be high

where the team PAS is high especially given the positive links between other forms of support at work and OCBs (Rhoades & Eisenberger, 2002; Riggle et al., 2009; Chiaburu & Harrison, 2008). Overall, we expect that employees who perceive greater support for their autonomy will reciprocate with greater OCBs.

Hypothesis 4: Team PAS will be positively related to individual OCBs.

Attendance

Researchers studying employee attendance behaviors have become increasingly interested in the group and organizational factors that may influence employee attendance (Bamberger & Biron, 2007). Although social and job characteristics have been found to positively influence attendance, Dellve, Skagert and Vilhelmsson (2007) found that leadership has been particularly implicated in attendance behaviors, as leaders influence work conditions and support for employees. Moreover, the researchers found that work attendance was especially positive when leaders' styles included recognition, respect and interest, similar to the leadership characterised by PAS (Dellve et al., 2007). Finally, given the established role of support and attendance in meta-analyses (Rhoades & Eisenberger, 2002; Chiaburu & Harrison, 2008) we suggest the following hypothesis:

Hypothesis 5: Team PAS will be positively related to individual attendance behaviors.

Mediating Effects of Job Satisfaction

Given the role that job satisfaction plays in enhancing other positive outcomes (see Harter et al., 2005), we suggest that job satisfaction may mediate the relationship between Team PAS and other outcomes. For example, Cotton and Tuttle (1986) found that job satisfaction was the single most reliable predictor of

turnover, and this has been supported in subsequent research (e.g. Griffeth, Hom, & Gaertner, 2000; Mor Barak, Nissly, & Levin, 2001). As such, we suggest the beneficial influence of PAS at the team level may work through individual job satisfaction, which, in turn, influences the other job outcomes tested here (i.e. career satisfaction, turnover intention, OCBs and attendance behavior). This leads to our final hypothesis:

Hypothesis 6: Job satisfaction will mediate the relationship between team PAS and job outcomes.

METHOD

Sample and Procedure

Data were collected from 250 organizations, spread across a wide regional location in New Zealand. A total of 600 supervisors and managers were approached, and it was explained to them that the surveys would be completed by individual employees, but considered in relation to other team members' responses. 202 teams agreed to participate: a response rate of 33%. Approximately 1010 surveys were distributed to team members and 460 completed surveys were returned. Three of these responses were removed because only one member of a team completed the survey. As such, 457 surveys from 199 teams were ultimately analysed for this study. A minimum threshold of two team members was established, with the highest number of team members being five (mode = two). The survey had employees rating their organizations' PAS as well as a number of employee outcomes. PAS was analyzed at the team level.

On average, participants were female (56%), worked 34.7 hours per week (SD=8.4) and had tenure with their team of 21.3 months (SD=25.2). Education was well spread: 26% high school qualification only, 44% technical college, 27%

university degree and 4% postgraduate qualification. Overall, respondents came from a wide range of sectors: 60% private sector, 32% public sector and 8% from the not-for-profit sector, with an average firm size of 527 employees.

Measures

All variables had good reliability ($\alpha > .79$). The variables are shown on the diagonal line of Table 2.

Outcome variables:

Job Satisfaction was measured using 3-items by Judge, Bono, Erez and Locke (2005), coded 1=strongly disagree, 5=strongly agree. Respondents were asked to indicate how satisfied or unsatisfied they were with different features of their present job. A sample item is “I find real enjoyment in my work”. Career Satisfaction was measured using 5-items by Greenhaus et al (1990), coded 1=strongly disagree, 5=strongly agree. A sample item is “I am satisfied with the success I have achieved in my career”. Turnover Intentions was measured using a 4-item measure by Kelloway, Gottlieb and Barham (1999), coded 1=strongly disagree, 5=strongly agree. A sample item is “I am thinking about leaving my organization”. OCBs were measured using 7-items from Lee and Allen (2002), and we specifically measured the individual dimension. Responses were coded 1=never, 5=always. A sample question is “Help others who have been absent”. Attendance Behavior was measured using 4-items by Eisenberger, Armeli, Rexwinkel, Lynch, and Rhoades (2001), coded 1=strongly disagree, 5=strongly agree. A sample item is “My attendance at work is above the norm”.

Predictor variable:

Team Perceived Autonomous Support (Team PAS) was measured using 6-items by Baard et al (2004) coded 1=strongly disagree, 5=strongly agree. A sample item is “My manager listens to how I would like to do things”. A higher score indicates

that employees perceive greater support for autonomy. In accordance with Judge and Bono (2003), we combined individual responses to PAS for each team, to create an average score that acts as the team-level construct Team PAS.

Measurement Models

To confirm the separate dimensions of measures, items were tested by SEM using AMOS. Typically, SEM studies use a large number of goodness-of-fit indices, but we are following the suggestions of Williams, Vandenberg and Edwards (2009) and using the following goodness-of-fit indices: the comparative fit index (CFI, $\geq .95$), the root-mean-square error of approximation (RMSEA, $\leq .08$) and the standardized root mean residual (SRMR, $\leq .10$). The hypothesized measurement model and alternative models are shown in Table 1.

Insert Table 1 about here

The hypothesized measurement model fit the data best and this was confirmed by running alternative CFAs (e.g. Hair, Black, Babin, & Anderson, 2010). Overall, the alternative models were significantly worse fits than the hypothesized model, confirming the study dimensions.

Analysis

Hypotheses were tested using SEM in AMOS to assess the direct and meditational effects.

RESULTS

Descriptive statistics for the study variables are shown in Table 2.

Insert Table 2 about here

The mean scores from Table 2 show high levels of Team PAS ($M=3.8$) representing above average levels of support for autonomy at the team level. There were similarly above average levels of attendance behavior, OCBs, and job satisfaction, while career satisfaction was only just above the midpoint of 3.0 ($M=3.3$). Turnover intentions ($M=2.5$), while below the midpoint, were still relatively high. Table 2 shows that Team PAS is significantly correlated with all outcomes: job satisfaction ($r = .32, p < .01$), career satisfaction ($r = .19, p < .01$), OCBs ($r = .53, p < .01$), attendance behaviors ($r = .33, p < .01$), and turnover intentions ($r = -.28, p < .01$). All positive work outcomes (job satisfaction, career satisfaction, OCBs and attendance behaviors) are positively related to each other ($.23 < r < .55$, all $p < .01$) and similarly, were all negatively correlated with turnover intentions ($-.23 < r < .54$, all $p < .01$).

With regards to testing the relationships, three alternative structural models were tested to determine whether mediation provided the best explanation for the model better, and whether partial or full mediation fitted the data best. The three models were: (1) a direct effects model, where Team PAS predicted all job outcomes; (2) a full mediation model, where Team PAS predicted job satisfaction and, in turn, job satisfaction predicted the remaining job outcomes; and (3) a partial mediation model, where Team PAS predicted all job outcomes and job satisfaction predicted the remaining job outcomes. The three structural models and the comparisons between them are shown in Table 3.

Insert Table 3 about here

Models were compared (see Hair et al., 2010) and it was found that model 3 (partial mediation model) was superior to models 1 and 2. The final model is shown in Figure 1.

Insert Figure 1 about here

Structural Models

Aligned with the recommendations of Grace and Bollen (2005), unstandardized regression coefficients are presented. Model 1 tests Team PAS as the sole predictor of the five outcomes and these relationships are all significant, supporting Hypotheses 1-5. As noted above, Model 3 (partial mediation) is the best fitting model and this supports Hypothesis 6 (mediating effects). The mediating effects only are shown in Figure 1. This figure indicates that Team PAS is significantly linked with job satisfaction (path coefficient = 0.38, $p < 0.001$), and directly linked with attendance behavior (path coefficient = 0.29, $p < 0.001$) and OCBs (path coefficient = 0.68, $p < 0.001$). Meanwhile, job satisfaction is significantly related to all other job outcomes: career satisfaction (path coefficient = 0.75, $p < 0.001$), turnover intentions (path coefficient = -1.0, $p < 0.001$), attendance behavior (path coefficient = 0.44, $p < 0.001$) and OCBs (path coefficient = 0.36, $p < 0.001$).

The structural model 3 (mediation effects) shows that Team PAS accounts for modest amounts of variance for job satisfaction (13%) and attendance

behavior (22%), but larger amounts of variance for OCBs (39%), turnover intentions (41%) and career satisfaction (45%). By exploring the direct effects model (model 1) and by including the mediator (job satisfaction), we can see that the amounts of additional variance towards job outcomes are as follows: OCBs increased from 34% to 39% (a 5% increase), attendance behavior increased from 13% to 22% (a 9% increase), turnover intentions increased from 10% to 41% (a 31% increase), and career satisfaction increased from 6% to 45% (a 39% increase).

DISCUSSION

The crucial role that teams play in securing positive organizational outcomes is well established, and the role and centrality of teams within organizations is set to rise (Griffin et al., 2001). Morgeson et al. (2010) suggested that over 90% of organization leaders believe that teams are pivotal in securing organizational success. Although research around leading teams has proliferated, leadership of teams remains an area of complexity. Of particular concern is the uncertainty around enhancing autonomy while also providing leadership support. In particular, teams require autonomy in order to function fully, however, leadership is often viewed as counter to autonomy development (Mathieu et al., 2008).

SDT is primarily concerned with understanding the nature and consequences of autonomy: detailing how autonomy develops and how it can be either diminished or facilitated by social conditions, such as leadership influence (Gagne & Deci, 2005). Organization and leadership support is one that can be described as autonomy supportive (PAS), therefore interaction with one's supervisors/leaders can affect the degree to which an individual feels autonomous, and this can affect the degree to which he or she experiences positive work and wellbeing related outcomes (Gagne & Deci, 2005). Although previous SDT

studies have found that PAS led to greater psychological wellbeing, job satisfaction and better psychological adjustment of employees (Baard et al., 2004; Gagne, 2000; Ilardi, Leone, Kasser, & Ryan, 1993; Gange & Deci, 2005), we have extended these findings towards team level evaluations of PAS.

Job satisfaction, career satisfaction and turnover intentions all represent cognitive aspects of employee wellbeing, and we found that team level PAS was a significant and beneficial influencer of all of the above three cognitive outcomes. Furthermore, we found, for the first time, job satisfaction plays a crucial role in mediating the positive outcomes of PAS in terms of career satisfaction and the reduction of turnover intentions. Similarly, we found that PAS played a crucial role in enhancing employee OCBs and attendance behavior beyond job satisfaction. While PAS accounted for modest, unique amounts of variance towards attendance behaviors compared with job satisfaction (13% versus 9%), it appears far more important towards OCBs, accounting for large, unique amounts of variance towards OCBs compared with job satisfaction (34% versus 5%). Using social exchange theory as an explanatory mechanism (Eisenberger et al. 2001), we suggest that one reason for this could be because team members view their supervisors as supporting their autonomy, they engage in (overt) behaviors to reciprocate support. Hence PAS not only enhances cognitive wellbeing, but also results in positive team member behaviours, and this appears particularly powerful towards OCBs.

The findings presented here are novel in terms of team PAS, and therefore future research is required. For example, the role of PAS in enhancing organization outcomes, such as productivity and performance, also needs to be investigated. Team PAS may benefit from longitudinal studies that seek to determine the continued positive influence of PAS on team members over the life

span of the team. Furthermore, research in terms of the role of PAS in virtual teams is yet to be determined, given the complexity of perceptions of autonomous support in virtual teams. Clearly further research is required, however, a greater understanding of the benefits of PAS, across a number of employee outcomes, has been garnered by this study.

Limitations

Although our methodology had a notable strength regarding operationalizing PAS at the team level, we acknowledge that some limitations of the study should be noted. The use of self-reports and outcomes variables measured at the same time, particularly towards job satisfaction, may make these findings susceptible to common method variance. However, Kenny (2007) notes that the use of structural equation modeling does also somewhat mitigate this issue. Future studies could improve the measurement of work outcomes by using other ratings, such as co-worker OCBs and actual turnover. Finally, our research setting is in New Zealand, and, given that it is a distinct setting outside the usual settings for this type of research of the United States and Europe, more research is needed to determine the ability to generalize these findings to other countries.

Conclusions and Implications

As organizations become increasingly reliant on positive team functioning, investigating the role that autonomy and support have on team members' experiences remains a priority. We found that team PAS had a significant and beneficial influence on team members' work outcomes, and that team members benefit as leaders strive to enhance employee autonomy in a climate of support. Thus, if organizations place greater emphasis on autonomy rather than deadlines and evaluations of team members, positive outcomes for both organizations and

team members with result. When undertaking leader/supervisor training, organizations are advised to stress the importance of encouraging autonomy enhancing interactions and the development of autonomous relationship with employees. By following these recommendations the benefits of PAS towards both team members and organizations can be fully realized.

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TABLES AND FIGURES

Table 1. Results of Confirmatory Factor Analysis for Study Measures

Model	Model Fit Indices					Model Differences			
	χ^2	df	CFI	RMSEA	SRMR	χ^2	Δ df	p	Details
Study 1 (Managers)									
Model 1. 6-factor model	643.6	309	.96	.05	.04				
Model 2. 5-factor model	877.3	314	.93	.06	.05	233.7	5	.001	Model 2 to 1
Model 3. 5-factor model	1188.2	314	.89	.08	.09	544.6	5	.001	Model 3 to 1

Model 1= Hypothesized 6-factor model: Team PAS, job satisfaction, career satisfaction, OCBs, attendance behaviors, and turnover intentions.
Model 2= Alternative 5-factor model: Team PAS, combined: job satisfaction and career satisfaction, OCBs, attendance behaviors, and turnover intentions.
Model 3= Alternative 5-factor model: Team PAS, job satisfaction, career satisfaction, OCBs, combined: attendance behaviors and turnover intentions.

Table 2 : Correlations and Means of Study Variables

Variables	M	SD	1	2	3	4	5	6
1. Job Satisfaction	3.5	.72	.80					
2. Career Satisfaction	3.3	.70	.54**	.83				
3. OCBs	3.7	.82	.36**	.26**	.91			
4. Attendance Behaviors	4.1	.76	.35**	.24**	.37**	.82		
5. Turnover Intentions	2.5	1.0	-.53**	-.43**	-.24**	-.29**	.91	
6. Team PAS†	3.8	.60	.32**	.19**	.53**	.33**	-.28**	.95

Managers N=457 individual level except †N=199 team level. *p< .05, **p< .01.

Table 3: Model Comparisons for Structural Models

Model Fit Indices									
Model	χ^2	df	CFI	RMSEA	SRMR	χ^2	Δ df	p	Details
Study 1 (Managers)									
1. Direct Effects Model	996.5	319	.92	.07	.12				
2. Full Mediation Model	779.7	319	.94	.06	.10	216.8	0	--	Model 2 to 1
3. Partial Mediation Model	663.8	315	.96	.05	.05	332.7	4	.001	Model 1 to 3
						115.9	4	.001	Model 2 to 3

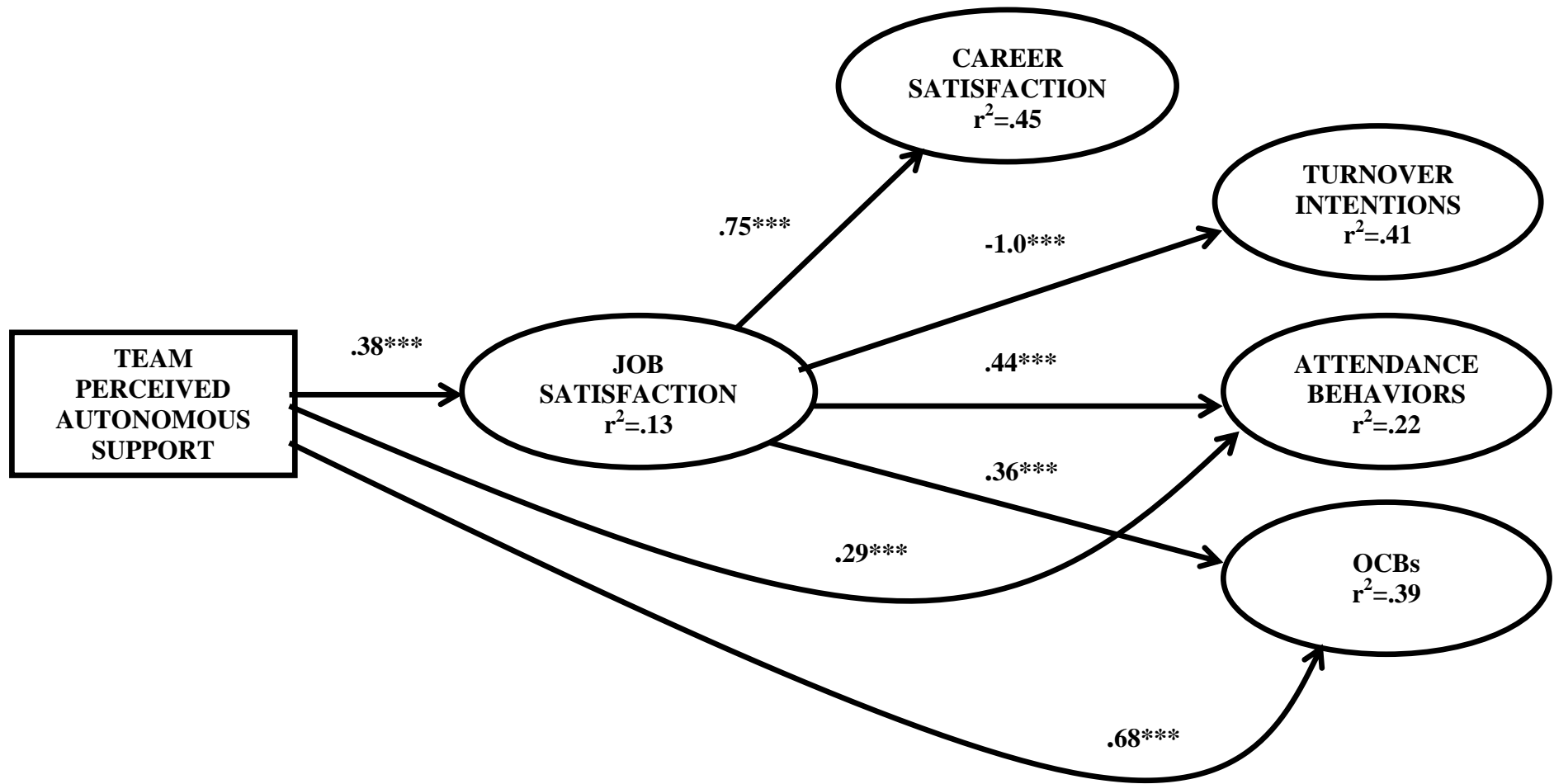


Figure 1: SEM Direct Effects of Team PAS on Workplace Outcomes

CHAPTER 7

THREE NEEDS - LEADER TO FOLLOWER

Paper title

Leader to Follower Wellbeing: A Self-Determination Theory Approach.

Declaration

I developed the theoretical model for the paper. I instigated data collection in conjunction with the second author (Professor Haar) and I had overall responsibility for the collection of data, which included leader and follower data sets. I was responsible for data entry and cleaning and completed the initial statistical analysis for the paper in SPSS. I wrote the first full draft of the paper. The theoretical contributions made in this paper are, therefore, my own.

My co-author assumed the main role in the MLwiN analysis (multi level analysis): he is one of the few New Zealand researchers able to do so. I observed the process and re-ran results to confirm findings. My co-author provided feedback on the paper and editing. The final version of the paper was edited by an editor.

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Conference

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Special note on formatting, language and layout

As the following paper has been submitted to the above journal, the layout, referencing and language used is as required by the journal editors.

ABSTRACT

Self-determination theory (SDT) asserts that a requirement for optimal wellbeing is eudaimonic functioning, garnered via experiencing the three needs: autonomy, competence and relatedness. Thus, leaders who have these three needs met are likely to have superior wellbeing. We test the contagion effect of leaders' eudaimonic wellbeing on followers' wellbeing. Using a multi-level analysis on a sample of 160 New Zealand managers and 368 followers, we tested a model where the leaders' three needs predict the followers' three needs, with perceived autonomous support (PAS) at the team level acting as a mediator of these relationships. We also tested followers' three needs predicting their subjective

wellbeing. Analysis showed that leaders' relatedness satisfaction influences followers' perceptions of team PAS and this support was positively related to follower autonomy, competence and relatedness. Furthermore, followers' three needs were all positively related to follower subjective wellbeing, as was leaders' relatedness satisfaction and perceptions of autonomous support. Overall, we find support for leaders' SDT dimensions influencing eudaimonic and hedonic wellbeing outcomes for followers, supporting contagion effects with SDT dimensions.

Keywords: *leadership, wellbeing, three needs, subjective wellbeing, contagion.*

INTRODUCTION

A leader's wellbeing is not just a personal concern, but has implications for follower and organizational outcomes (Sy, Côté, & Saavedra, 2005; Anderson, Keltner, & John, 2003). Leaders' moods, for example, whether positive or negative, set the emotional tone for workgroups and are a determinant of employee wellbeing (Sy et al., 2005; Skakon, Nielsen, Borg, & Guzman, 2010). Although recent developments linking wellbeing more generally with positive outcomes have stimulated renewed interest and research into employee wellbeing, research within this area remains nascent (Page & Vella-Brodrick, 2009). Wellbeing is narrowly defined and measured. The current emphasis in wellbeing research tends to focus on moods and emotions of leaders, as these measures are better known and established for researchers (Keyes & Annas, 2009; Wright & Cropanzano, 2000). Moods and emotions are generally referred to as hedonic wellbeing. Positive mood, rather than engagement in ongoing meaningful or challenging activities, is what characterizes hedonic wellbeing (Huta & Ryan, 2010).

Eudaimonic wellbeing, on the other hand, focuses on the context and experiences that aid one through life. It is distinguished from hedonic wellbeing as it is characterized by a person's ongoing engagement in positive *experiences* that shape growth, challenge one's abilities and aids positive functioning in life (Ryan & Huta, 2009; Steger, Kashdan, & Oishi, 2008; Delle Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011). Eudaimonic wellbeing has been found to predict the wellbeing of close others, while hedonic wellbeing was less beneficial for others (Huta, Pelletier, Baxter, & Thompson, 2012) making eudaimonic wellbeing central in leadership research (Ilies, Morgeson, & Nahrgang, 2005). However, despite the benefits to both leader and follower, eudaimonic wellbeing has not been the subject of leader-follower wellbeing research (Ilies, Morgeson, & Nahrgang, 2005). This study, firstly, seeks to address this limitation.

The literature that attests to the role of hedonic wellbeing remains important in leader and follower relationships (Sy, et al. 2005). Advances in wellbeing research have recently begun to emphasize how *both* measures of wellbeing are important as the two perspectives (eudaimonic and hedonic) conceive wellbeing differently, resulting in different states (mood versus content of one's life) and consequences (Ryan & Deci, 2001; Steger et al., 2008; Ryan & Deci, 2008; Ilies et. al., 2005). Therefore a comprehensive model of wellbeing will include the two distinct conceptualisations of wellbeing (Ryan & Huta, 2009; Page & Vella-Brodrick, 2009). As such, the present study's second objective was to test leaders' wellbeing (eudaimonic) toward employees' wellbeing (both eudaimonic and hedonic). In doing so, we extend the wellbeing literature by develop a comprehensive model of leader to follower wellbeing.

Finally, we tested and found support for a pathway of wellbeing. Leaders' eudaimonic wellbeing enhances follower perceptions (calculated at team level) of

support for autonomy within their organization, which in turn, positively influences followers' eudaimonic and hedonic wellbeing outcomes. Using a sample of leaders and followers, we extend the contagion literature by finding support for contagion effects toward follower eudaimonic and hedonic wellbeing and highlight the contribution of SDT in leader follower wellbeing.

Our paper begins with a brief description of the contagion effect as an explanation for how leaders influence their followers. We then explore in detail the SDT dimensions of three needs (autonomy, competence and relatedness) as they relate to subjective wellbeing and the role of PAS, and finally, we build our model of leader to follower effects.

LEADER-FOLLOWER CONTAGION

The process by which followers are influenced by leaders' affective states and behaviors is referred to as *contagion* (Sy, et al., 2005), and recent research has gathered a greater understanding of this process. Contagion is largely an automatic and unconscious mimicking of leaders' emotions, behaviors and expressions, by followers (Johnson, 2008) who do not usually realize they are being influenced (Bono & Iles, 2005). The influencing processes of leadership (Northouse, 2011) mean that leaders have ample opportunities to express and transmit their moods and behaviors. In fact, influencing followers is part of their 'role' within the organization. Furthermore, contagion is particularly salient in leader and follower relationships due to differences in organizational status (power) between leaders and followers (Fredrickson, 2003). As leaders influence followers' careers and resources, followers are more likely to closely attend to the leaders' states, because they depend more on the leader, than vice versa (Sy et al., 2005). Indeed, Anderson, Keltner, and John (2003) asserted that high status

individuals (leaders) are more likely to successfully influence the moods of lower status individuals (followers).

Bono and Iles (2005) found that charismatic leaders, who used positive emotions themselves, enabled their followers to experience positive emotions. This suggests that leaders can make a difference in the wellbeing of followers. Similarly, Sy et al. (2005) found that greater positive emotions of leaders evoked greater positive emotions in followers. Recent research has extended the literature on emotional contagion by investigating how behavior is closely linked to thoughts and emotions (Chartrand & Bargh, 1999; Fogassi, & Ferrari, 2007). We suggest, similar to Chartrand and Bargh (1999), that leaders' positive experiences manifest in their supportive behaviors towards employees, and that these positive experiences that the leader is engaged in, will be positively interpreted by employees, who are then likely to benefit from greater wellbeing. Therefore, leaders who engage in experiences that lead to greater eudaimonic wellbeing, are likely to exhibit this sense of wellbeing in their interactions with followers, who are likely to be similarly positively influenced.

SELF DETERMINATION THEORY (SDT)

SDT is a theory of motivation which fundamentally seeks to enhance wellbeing. As such, SDT posits that people are motivated to develop to their fullest potentials, and actively engage in opportunities for growth and development, which enhances their eudaimonic wellbeing (Ryan, Huta & Deci, 2008). SDT maintains that motivation towards growth and development is autonomously governed, and that challenges and experiences we encounter are integrated into an authentic sense of self (Ryan & Deci, 2008; Vansteenkiste, Neyrinck, Niemic, Soenens, De Witte, & Van den Broeck, 2007; Greguras & Diefendorff, 2009; Deci & Ryan, 2000). SDT utilizes the unifying concept of *psychological needs* to

provide a “framework for integrating findings” (Deci & Ryan, 2000, p. 263): being able to satisfy one’s psychological needs for autonomy, competence and relatedness, while engaging in challenges and experiences, is fundamental to individual eudaimonic wellbeing (Ryan et al., 2008; Sheldon & Niemiec, 2006). The degree to which the work environment supports the satisfaction of the three needs has been related to greater experiences of wellbeing and motivational states. Weinstein and Ryan (2011) found that employees who experience the three needs at work become increasingly self-motivated and autonomous in thinking and behavior. However, research into the contagion of leaders’ three needs (eudaimonic wellbeing) toward employee wellbeing, has not been undertaken.

BASIC PSYCHOLOGICAL NEEDS

SDT has identified three basic psychological needs: (1) autonomy, (2) competence, and (3) relatedness, which are considered essential to optimal functioning and eudaimonic wellbeing. In the SDT view, being able to experience these three needs directly promotes wellbeing, while their neglect or frustration exerts a negative effect (Deci & Ryan, 2000). Hence, SDT regards the satisfaction of the three needs as the essential nutrients of wellbeing (Deci & Ryan, 2000; Greguras & Diefendorff, 2010). Being able to meet these needs within an organization will benefit all employees (including leaders) by enhancing wellbeing (Ryan & Deci, 2008; Vansteenkiste et al., 2007). The SDT perspective states that people who work in environments, or have relationships and/or opportunities, which aid in meeting these needs, will benefit in terms of psychological wellbeing (Ryan & Deci, 2008; Vansteenkiste et al., 2007; Deci & Ryan, 2000; Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008; Baard, Deci, & Ryan, 2004; Gagne & Forest, 2008; Greguras & Diefendorff, 2010).

Need for autonomy is defined as being able to act according to one's own free will and volition. Essentially, it refers to being psychologically free from control and others' expectations (Deci & Ryan, 2000). Autonomous individuals base their decisions on whether to participate in activities on expectations of the self rather than the expectations of others. As such, autonomy is synonymous with one's psychological freedom. While autonomy at work has taken many directions, such as discretion in scheduling work and discretion in decision making (Hackman & Oldman, 1976; Caza, 2012), it is psychological freedom and choice that characterise SDT's conceptualisation of autonomy. Hence, following instructions at work, because there is a meaningful reason to do so, would still aid in meeting the need for autonomy (Van den Broeck et al., 2008). Van den Broeck et al. (2008) found that the satisfaction of the need for autonomy was a strong mediator of the effects of job control on burnout and engagement, suggesting that autonomy may play a strong buffering role on wellbeing outcomes.

Need for competence relates to being able to master the environment and capably bring about desired outcomes (Deci & Ryan, 2000; White, 1959). When people engage and succeed in difficult and challenging tasks that test their skills and abilities, they develop their sense of accomplishment and competence. Experiences that enhance a sense of competence allow employees to adapt to complex and changing environments, whereas competence frustration results in helplessness and a lack of motivation (Deci & Ryan, 2000; Van den Broeck et al., 2008). Work based activities that require direction, selectivity, difficulty and persistence for completion, aid in satisfying the need for competence.

Need for relatedness is conceptualised as a person's inclination towards being connected to others: to be a member of a group, and to have significant emotional ties, beyond mere attachment, to others (Baumeister & Leary, 1995,

Deci & Ryan, 2000). Therefore, the need for relatedness is satisfied if people experience a sense of unity and maintain close relationships with others.

The assumption that individuals benefit from being integrated into a social matrix characterised by care and support is consistent with organizational research, such as loneliness at work (Wright, Burt, & Strongman, 2006). Simon, Judge, and Halvorsen-Ganepola (2010) showed that co-worker satisfaction, or the social context of work, strongly influenced individuals' satisfaction not only with their jobs, but with their lives as well. Thus, those who feel part of a team and feel free to express their personal concerns and enjoyment are more likely to have their needs for relatedness met, compared with those who are unable to do so, or who feel lonely and lack social support at work (Vansteenkiste et al., 2007).

The meeting of employees' three needs has been found to facilitate other positive outcomes within the workplace. This is important because these other outcomes are also instrumental in enhancing psychological wellbeing. The satisfaction of the needs for autonomy, competence and relatedness has been shown to relate positively to employees' work related wellbeing in terms of task job satisfaction, work engagement, learning, affective commitment, job performance, self-rated performance, intrinsic motivation, organizational commitment, organizational citizenship behaviors, life satisfaction and general wellbeing (Greguras & Diefendorff, 2009, 2010; Lynch, , & Ryan, 2005; Vansteenkiste et al., 2007; Van den Broeck, et al., 2008).

These results are consistent across a range of professional levels, sectors and cultures (e.g. Deci, Ryan, Gagne, Leone, Usunov, & Kornazheva, 2001), and are in line with the claim that satisfaction of these needs yields universally positive associations. Finally, Ilardi, Leone, Kasser, and Ryan (1993) found that the positive relationship between needs satisfaction and employees' optimal

functioning remained significant even after controlling for employees' salary and organizational status. Given the role and importance of the three needs and previous evidence that needs experience facilitates other positive outcomes within the workplace, we suggest that this facilitation is particularly significant for leaders' three needs. Given that leaders are a source of influence within organizations, and, as noted earlier, are therefore likely to exert this influence via contagion, we posit that leaders' three needs may ultimately influence employee wellbeing. Building from this, we suggest that when leaders positively experience the three needs at work, their followers notice the positivity the leaders are experiencing and the leaders' behavior, which, in turn, influences the employees' own three needs. This leads to our first hypothesis.

Hypothesis 1: Leaders' (a) autonomy, (b) competence, and (c) relatedness needs will be related to follower three needs (autonomy, competence, and relatedness).

SUBJECTIVE WELLBEING

Subjective wellbeing (SWB) is an inclusive term used to refer to life satisfaction, the presence of positive affect and the absence of negative affect (DeNeve & Cooper, 1998; Diener, Suh, Lucas, & Smith, 1999). Consequently, SWB is a hedonic measure of wellbeing, as it is characterised by mood and overall satisfaction with life, rather than on-going engagement in specific activities. For example, organizational research has consistently found that job satisfaction is related to each of the above sub-dimensions of SWB (Thoresen, Kaplan, Barsky, Warren, & de Chermont, 2003). However, a greater understanding of life experiences and SWB has been called for (Suh, Diener, & Fujita, 1996). We suggest that SWB offers extended insight into employee wellbeing and we test SWB (as a hedonic outcome) in conjunction with eudaimonic wellbeing through exploring the three needs of self determination theory.

We suggest that leaders' three needs may crossover and influence followers SWB in a similar way as they effect followers three needs. This supposition is consistent with the clinical literature on three needs, positive affect and life satisfaction (Deci & Ryan, 2000). Finally, and consistent with Deci and Ryan (2000), we assert that followers' own three needs being met (eudaimonic wellbeing) will have a positive influence on their own SWB. This leads to our next hypotheses.

Hypothesis 2: Leaders' (a) autonomy, (b) competence, and (c) relatedness needs will be related to follower SWB.

Hypothesis 3: Follower (a) autonomy, (b) competence, and (c) relatedness needs will be related to their own SWB.

Perceived Autonomy Support

The role of the environment is also important in SDT. Deci, Connell, and Ryan (1989) suggested that employees perceive feedback from managers in two ways: (1) as supporting autonomy, or (2) as controlling (which relates to employees being pressured to think, feel or behave in certain ways). Situations perceived to be supportive of autonomy are those that are structured around feedback, are informational, and ultimately allow for self determination (Deci et al., 1989). Within the workplace, motivation and wellbeing are likely to be satisfied when the environment supports autonomy (Ryan & Deci, 2008; Spreitzer et. al., 2005): SDT proposes that the organizational context can enhance wellbeing through supporting employee autonomy (Gagne, 2003; Gagne, Ryan, & Bargmann, 2003). According to SDT, all employees have the capacity to pursue growth and development but their success can depend on whether or not the workplace context supports their autonomy.

Deci, Koestner, and Ryan (1999) found that the controlling of rewards was negatively related to motivation, whereas Koestner, Ryan, Bernieri, and Holt (1984) found that acknowledging people's feelings toward activities was positively related to motivation. These findings imply that when people feel autonomous with regards to an activity, they will continue to engage in it without needing to be controlled (Ryan & Deci, 2003; Koestner, et al., 1984).

Supportive leadership, as reported by employees, is linked to greater job satisfaction and loyalty, and less stress (Rooney, Gottlieb, & Newby Clark, 2009). Furthermore, Rooney et al. (2009) used SDT (as an explanatory framework) and found that employees' perceptions of management support were related to employee needs satisfaction. Thus, studies have shown that employees are more likely to prefer, and benefit from, a leadership style that encourages employee participation, input and innovation. Within SDT, autonomy support, which is distinct, although related, to leadership style, focuses specifically on enhancing employee autonomy in the workplace (Spreitzer et al., 2005). Spreitzer et al. (2005) argued that employees with greater autonomy would have greater mastery over their work, behave persistently and proactively, and be more inclined to be innovative.

Within SDT and the concept of autonomy support, the nature of the leader-follower relationship is important: greater autonomy from the leader enhances relatedness with the follower (Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005). Autonomy also facilitates relationship stability and wellbeing (Blais, Sabourin, Boucher, & Vallerand, 1990; Knee, Lonsbary, Canevello, & Patrick, 2005) and similarly, Deci and Ryan (2000) found reliance on others was predicted by autonomy support. Unlike theorists who have portrayed autonomy and relatedness as being antithetical (e.g. Iyengar & Lepper, 1999), SDT has

continually found that people feel most related to those who support their autonomy. Therefore, PAS refers not just to the job, but to the degree of autonomy provided by the leader when relating to subordinates (Deci et al., 1989). As such, PAS is dependent on the nature of relatedness between leaders and follower. Consequently, PAS relates to the promotion of choice, freedom, rationale and support for employees by leaders (Deci & Ryan, 2000; Ryan & Deci, 2008; Williams, Gagne, Ryan, & Deci, 2002).

Gagne (2003) found that PAS was positively related to follower three needs, as well as the degree of additional work volunteered for, and was negatively linked to turnover. Similarly, Baard et al. (2004) found that PAS influenced employee three needs, which in turn related to greater performance, engagement, and wellbeing. These effects were confirmed in both American and Bulgarian samples. A number of other studies have also provided cross-cultural support for the beneficial effects of PAS (Arshadi, 2010; Richer & Vallerand, 1995; Hagger, Chatzisarantis, Barkoukis, Wang, & Baranowski, 2005). Gagne, Koestner, and Zuckerman (2000) tested a causal (longitudinal) model of PAS and found PAS (Time 1) positively influenced acceptance of change (Time 2), and the reverse was not supported. These findings provided support for the causal effects of PAS.

Overall, research has supported PAS having a positive influence on three needs, job satisfaction and performance (Baard et al., 2004; Gagne, Koestner, & Zuckerman, 2000; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992). Despite the overall support in the literature, no study has tested the relationship of leaders' three needs with follower perceptions of autonomous support and how these may influence the followers own wellbeing. Furthermore, we extend the understanding of this process by suggesting that leaders' who

experience three needs will create a climate of autonomous support, reflected as higher PAS at a team level, which is also previously unexplored. We suggest that leaders, who report higher levels of autonomy, competence and relatedness, will, in turn, promote higher team rated PAS. This will lead to followers themselves reporting higher levels of autonomy, competence and relatedness and SWB. This leads to our next set of hypotheses.

Hypothesis 4: Leaders' (a) autonomy, (b) competence, and (c) relatedness needs will be related to higher team PAS.

Hypothesis 5: Team PAS will be related to higher follower (a) autonomy, (b) competence, and (c) relatedness needs.

Hypothesis 6: Team PAS will be related to higher follower SWB.

Finally, we examine whether the contagion effects of leader three needs to follower wellbeing is mediated by the SDT constructs tested here. We suggest follower perceptions of team PAS will mediate the influence of leader three needs on follower three needs, and similarly, that the effect of leader PAS on follower SWB is mediated by follower three needs. As such, we test a model which is based on the premise that direct effects of leaders' three needs on follower SWB are the result of a process by which leaders' three needs first influence team PAS rated by followers, which then influences follower three needs, which, ultimately, then influence follower SWB. This leads to the last set of hypotheses.

Hypothesis 7: Team PAS will mediate the contagion effect of leader three needs to follower three needs.

Hypothesis 8: Follower three needs will mediate the contagion effect of team PAS to follower SWB.

METHOD

Sample and Procedure

Data were collected from 250 organizations, spread across a wide regional location in New Zealand. This study targeted leaders and their followers, and 600 surveys were distributed to leaders inviting them and a selection of their subordinates to participate. In total, 160 leaders responded (26.7 response rate), and three to five surveys were given to each team, and a total of 368 followers (from 750) completed a survey (49.1% response rate). A minimum threshold of two followers per leader was applied, with the highest number of followers being five (mode = two). The study was divided into two stages: (1) leader survey on three needs and, one month later, (2) follower survey rating their leaders' PAS (team level) and reporting on their own three needs and SWB. On average, leaders were female (51%), with 41% holding a bachelor's degree qualification, and they worked on average 39.6 hours per week ($SD=14.2$). On average, followers were female (63%), with 32% holding a bachelor's degree qualification, and they worked on average 34.8 hours per week ($SD=8.2$). The average tenure between follower and leader was 21.6 months ($SD=26.2$). Overall, respondents were mainly from the private sector (57%), and worked in large sized firms (average firm size of 572 employees, $SD=2152$).

Measures

Three needs satisfaction was measured using 20-items by Deci, Ryan, Gagne, Leone, Usunov, and Kornazheva (2001), coded 1=not at all true, 5=very true. The same items were asked of both leaders and followers. Questions followed the stem "How important is the following to you..." and items were spread across the three needs. Autonomy was measured using 7-items. A sample item is "I feel like I can make a lot of inputs to deciding how my job gets done" ($\alpha = .66$ leader and $\alpha = .70$

follower). Competence was measured using 5-items. A sample item is “People at work tell me I am good at what I do” ($\alpha = .67$ leader and $\alpha = .69$ follower). Relatedness was measured using 8-items. A sample item is “I get along with people at work” ($\alpha = .77$ leader and $\alpha = .84$ follower).

Team PAS was measured using six items by Baard et al. (2004), coded 1=strongly disagree, 5=strongly agree. A sample item is “My manager listens to how I would like to do things”. A higher score indicates that employees perceive greater support for autonomy ($\alpha = .92$). This measure was calculated at the team level, following the approach of Spell and Arnold (2007) that aggregated individual perceptions towards a team level rating of the organizations climate towards fairness. To confirm the logic of combining scores, we also follow their logic and calculated the inter-rater agreement between team members, which ranged from 0.7 to 1.0. Combined with the average $r_{wg(j)}$ of 0.91, indicates a high level of consistency toward team PAS among followers, supporting the aggregated approach.

SWB was calculated by combining the measures of Satisfaction with Life Scale (SWLS) and Positive and Negative Affect Schedule (PANAS). This allows cognitive (SWLS) and affective (PANAS) dimensions of subjective wellbeing (Diener, 2000) to be accounted for. This approach, which has been reported in the literature (e.g. Libran, 2006; Galinha & Pais-Ribeiro, 2008), is calculated with the following formula: $SWB = SWLS + (PA - NA)$. SWLS was measured using the 5-item scale by Diener, Emmons, Larsen, and Griffin (1985), coded 1=strongly disagree, 5=strongly agree. A sample question is “In most ways my life is close to ideal” ($\alpha = .82$). Positive and Negative Affect were coded using the 10-item PANAS by Watson, Clark, and Tellegen (1988), coded 1=very slightly, 5=extremely. Sample items for Positive Affect (PA) (5-items) are “enthusiastic”

and “excited” ($\alpha = .91$) and sample items for Negative Affect (NA) are “upset” and “irritable” ($\alpha = .86$).

Control variables: we controlled for firm and individual factors that might ultimately influence the wellbeing of employees. Firm Size (total number of full-time equivalent employees), Private Sector (1=private sector, 0=public/not-for-profit sectors), Gender (1=female, 0=male), and Hours Worked (total hours per week) of leaders and followers, as well as Follower Time with Leader (time in months, followers have been with their leader).

Analysis

As we had multi-level data, with followers nested in leaders, we conducted multi-level analysis with the MLwiN program (Rashbash, Browne, Healy, Cameron, & Charlton, 2000). We used a two-level model with the repeated measures at the first-level ($n = 368$ followers) and the leader at the second-level ($n = 160$). Predictor variables at the follower level (Level 1, e.g. leader PAS) were centered to the leader mean, and leader level (Level 2) variables (i.e. leader autonomy) were centered to the grand mean. In order to test mediated relationships in multilevel models, we followed the Monte Carlo Method for assessing mediation as described by Bauer, Preacher, and Gil (2006).

RESULTS

Table 1 presents the means, standard deviations, and correlations among the study variables.

Insert Table 1 about here

Table 1 shows that all the study variables are significantly correlated with each other (all $p < .05$) in the expected directions. Importantly, follower SWB is significantly correlated to the three needs of the leader ($.23 < r < .29$, all $p < .01$), the three needs of the follower ($.40 < r < .61$, all $p < .01$), and PAS ($r = .48$, $p < .01$). These findings support leaders' three needs influencing follower three needs (supporting Hypotheses 1 (a)-(c)).

In order to examine the proportion of variance that is attributed to the different levels of analysis, we calculated the intra-class correlation for each of the follower-level endogenous variables. The 0 random intercept models showed that a significant amount of the variance could be attributed to within-leader differences for leader (20%) and follower (80%): justifying our multi-level approach.

Table 2 shows the results of the multilevel analyses for each hypothesized step of the indirect relationship between leader three needs and follower SWB.

Insert Table 2 about here

In each step the model is elaborated, testing the effects of the exogenous variable (e.g. leader three needs) and mediator variable (e.g. leader PAS) on the next outcome variable (e.g. follower SWB). In Table 2, the second column provides the results for leader three needs on follower SWB and we find support for Hypothesis 2 (c) with leader relatedness ($\beta = .49$, $p < .01$) positively related to follower SWB. Column three continues with the results for the model, predicting follower SWB by leader PAS ($\beta = .71$, $p < .01$), which supports Hypothesis 6. Column four shows the results for the model predicting follower SWB by

follower three needs. All three dimensions are significant predictors: autonomy ($\beta = .53, p < .05$), competence ($\beta = .86, p < .001$), and relatedness ($\beta = .73, p < .01$), supporting Hypotheses 3 (a)-(c). We also tested leader three needs toward PAS (table not shown) and this was supported for relatedness only ($\beta = .28, p < .05$), supporting Hypothesis 4 (c). Similarly, PAS was tested toward follower three needs (table not shown) and this was a significant predictor toward follower autonomy ($\beta = .61, p < .001$), follower competence ($\beta = .29, p < .001$), and follower relatedness ($\beta = .36, p < .001$). This supports Hypotheses 5 (a)-(c).

The direct effects of leader PAS and follower three needs on follower SWB provide support for the mediating hypotheses (7 and 8) and this was confirmed by Monte Carlo tests. Leader PAS significantly mediated the relationship between leader relatedness need (the only significant predictor) and follower three needs. This was confirmed by the Monte Carlo test toward follower autonomy (LL = .022, UL = .341, $p < .05$), follower competence (LL = 0.007, UL = 0.179, $p < .05$) and follower relatedness (LL = .012, UL = .2121, $p < .05$). Monte Carlo analysis also confirmed that follower three needs mediated the relationship between leader PAS and follower SWB: for follower autonomy toward SWB (LL = 0.456, UL = 1.234, $p < .05$), for follower competence toward SWB (LL = 0.544, UL = 1.227, $p < .05$), and for follower relatedness toward SWB (LL = 0.364, UL = 1.054, $p < .05$). These results support the mediation hypotheses, showing that the direct effects of leader three needs on follower three needs work through leader PAS, and that the direct effects of leader PAS on follower SWB work through follower three needs.

Figure 1 provides a diagrammatical representation of the significant effects found in the present study.

Insert Figure 1 about here

DISCUSSION

The present study provides unique insight into the importance of leaders' three needs on the team level perceptions of autonomous support by employees and the potential contagion effects of this on follower wellbeing, through followers' own three needs. The study contributes to the literature by extending the range of wellbeing outcomes for employees, by testing wellbeing, both eudaimonically and hedonically: using SDT dimensions of three needs (eudaimonic) and subjective wellbeing (hedonic). Our findings showed that the strongest predictors towards SWB were the followers' own competence and relatedness needs, while autonomy while significant, was less powerful. These findings support Deci and Ryan's (2000) assertion that all three needs are essential to wellbeing. Interestingly, leaders' relatedness was also a strong predictor of follower SWB, indicating the strong contagion effect of leaders' feelings of relatedness to their workers. This contagion, in turn, saw followers express greater wellbeing. This is despite the effectiveness of leaders' three needs being partially mediated by PAS. This might indicate that leaders who have their relatedness needs met may do so by fostering connections and communications with followers, and this, in turn, directly influences follower wellbeing. This supports Ryan and Deci (2000) who suggest that autonomy support is predicated on enhanced relatedness.

In addition, the present study shows team perceptions of PAS influence employee subjective wellbeing and does this via three needs. The findings support our path-effects model, where the effectiveness of leader three needs on follower three needs is mediated by team PAS. Similarly, while PAS influences follower

SWB this relationship is also mediated by each of the follower three needs (autonomy, competence, and relatedness). Despite these mediated effects, there are still direct effects from leader relatedness satisfaction to follower subjective wellbeing (noted above) and PAS toward follower SWB. The consistent influence of PAS toward follower three needs and SWB further highlights the importance of PAS in encouraging employees to feel satisfied at work and report greater wellbeing. As such, our findings reinforce SDT theory's strength in explaining why organizational support for the autonomy of employees is a vital ingredient in understanding employee wellbeing, especially in the context of leader-follower contagion effects.

Our findings also indicate that leaders' wellbeing, expressed by the SDT dimensions of three needs, can directly and indirectly influence follower wellbeing. In particular, leaders' relatedness satisfaction was directly related to perceptions of support for the autonomy of followers, and, as this support was rated by followers (at the team level of analysis), this provides additional support for our hypotheses, and helps remove the potential for common method variance. Indeed, the direct effects of leaders' relatedness satisfaction and PAS toward follower SWB are outside the normal self-reported relationships tested in OB research, and provide a basis for confidence in these results. As such, the present study has strong methodological strengths, achieved by utilizing two sources of data and multi-level statistical analysis. Overall, the findings support the influence of SDT dimensions, including three needs from both leaders and followers and PAS toward follower SWB, and highlights the importance of testing SDT dimensions toward hedonic and eudaimonic wellbeing.

Future Research

Future research might explore the role of PAS on leaders' own three needs satisfaction: when the CEO or Top Management Team is autonomy supportive, what influence does this have on leaders' three needs and related outcomes? Do these effects extend to follower wellbeing, whether eudaimonic, hedonic, or both? Leaders who feels greater autonomous support may experience greater satisfaction of their three needs, and may generate more autonomously supportive climates as a result. We encourage further exploration of these relationships. Furthermore, shifting away from wellbeing and exploring these relationships, toward more direct work outcomes, such as turnover or performance, would also provide insights into whether SDT dimensions can influence job outcomes through leader to follower contagion effects. Further study of SDT dimensions toward other wellbeing outcomes is encouraged, such as partner-rated wellbeing of the follower.

Limitations

We have a large and diverse sample of leaders and followers from various industries and professions, and the separation of variables (predictors and outcomes), at two levels (leaders and followers), minimizes the chances of common method variance (CMV). In addition (as noted above), the team level construct of PAS also captures followers' ratings of their leaders' support at the team level, which further minimizes the potential for CMV. Our wide sample of organizations and leaders enhances the ability to generalize our findings, although we note that these are limited to the New Zealand setting. Another issue is that the measures for autonomy (leader sample) and competence (leader and follower samples) were below the established acceptable coefficient alpha mark of 0.70

(Nunnally, 1978). However, these scores are similar to others used in the literature (e.g. Greguras & Diefendorff, 2009) and, as such, reflect a measurement issue rather than an issue with our data.

Conclusion

Overall, the present study finds that the three needs of leaders influence employee perceptions of autonomy support, and this, in turn, influences both eudaimonic and hedonic wellbeing outcomes for followers. This study concludes that leaders' eudaimonic wellbeing matters, not only for the sake of their own wellbeing, but also because their wellbeing influences employee outcomes, especially through creating a culture, (PAS), which supports the autonomy of employees.

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TABLES AND FIGURES

Figure 1. Final Model

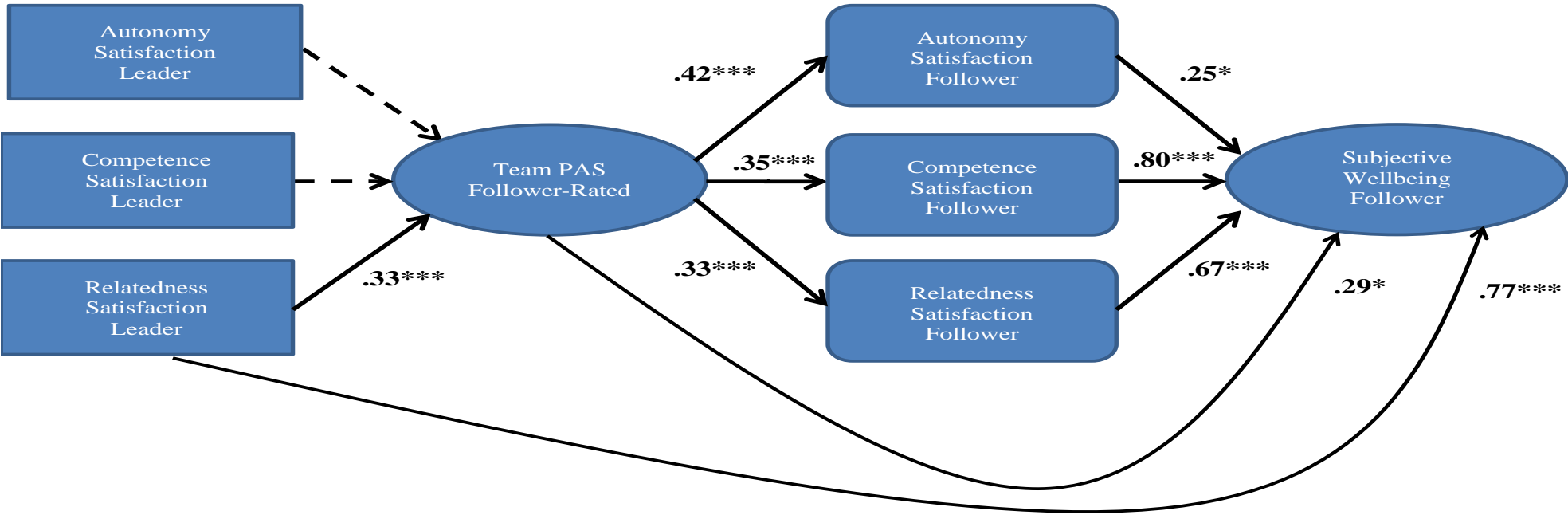


Table 1. Means, Standard deviations and Correlations of Model Variables.

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Firm Size	565	2055	--											
2. Hours Worked (L)	39.6	14.2	.07	--										
3. Hours Worked (F)	34.8	8.2	.15**	.76**	--									
4. (F) Time with (L)	21.6	26.2	.01	.11	.08	--								
5. Autonomy (L)	3.6	.58	.04	.12*	.15**	.09	--							
6. Competence (L)	3.9	.66	.08	.08	.09	.18*	.62**	--						
7. Relatedness (L)	3.9	.58	-.05	.01	.00	.06	.53**	.62**	--					
8. Team PAS (F)	3.8	.75	-.03	.11*	.07	.13*	.27**	.22**	.29**	--				
9. Autonomy (F)	3.4	.61	-.03	.02	-.05	.09	.21**	.16**	.19**	.62**	--			
10. Competence (F)	3.6	.64	-.08	.06	.04	.10	.24**	.26**	.25**	.53**	.67**	--		
11. Relatedness (F)	3.9	.66	-.11	.09	.03	.03	.18**	.14*	.28**	.48**	.55**	.60**	--	
12. SWB (F)	5.2	1.5	-.03	.04	.04	.04	.24**	.28**	.26**	.48**	.54**	.60**	.41**	--

N = 160 leaders and 368 followers. * $p < .05$, ** $p < .01$. L=Leader, F=Follower, by F=Rated by follower. SWB=subjective Wellbeing.

Table 2. Multilevel Results of the Mediated Three Needs Relationship to Follower SWB*Leader Three Needs on Follower SWB through Leader PAS and Follower Three Needs*

	Null model		Three Needs (L)		Team PAS (F)		Three Needs (F)	
	β	SE	β	SE	β	SE	β	SE
Intercept	5.169‡	.09	5.335‡	.15	5.319‡	.15	5.333‡	.16
Firm Size			-.00	.00	-.00	.00	-.00	.00
Private Sector			-.23	.19	-.21	.19	-.29	.20
Gender (F)			.08	.21	.07	.21	.12	.21
Gender (F)			-.20	.19	-.15	.19	-.22	.18
Work Hours (L)			.00	.01	.00	.01	.00	.01
Work Hours (F)			-.03	.05	-.02	.05	-.00	.04
(F) Time with (L)			-.00	.00	-.00	.00	-.00	.00
Autonomy (L)			.05	.20	.05	.20	.16	.21
Competence (L)			.27	.20	.27	.20	.16	.21
Relatedness (L)			.49**	.21	.50**	.21	.55**	.22
(L) PAS (F rated)					.71**	.28	-.05	.30
Autonomy (F)							.53*	.29
Competence (F)							.86‡	.26
Relatedness (F)							.73**	.25
Variance level 2 (leader)	.47** (20%)	.18	.02	.17	.04	.16	.40‡	.16
Variance level 1 (follower)	1.91‡ (80%)	.20	2.06‡	.24	.1.98‡	.23	1.34‡	.17
-2 Log Likelihood	1262.028		924.015		917.723		817.149	

Note. *p < .05, ** p < .01, ‡ p < .001. L=Leaders, F=Followers. SE = standard estimate.

CHAPTER 8

THE THREE NEEDS AND WORK FAMILY

Paper title

Work-Family Interface Predicting Needs Satisfaction: The Benefits for Senior Management.

Declaration

I developed the theoretical model for the paper. I instigated data collection in conjunction with the second author (Professor Haar) and I had overall responsibility for the collection of data which was all from survey one. I was responsible for data entry and cleaning and completed the initial statistical analysis for the paper in SPSS. I ran the regression analysis while my co-author assisted in clarifying the moderator analysis in the regression analysis. Overall, I ran the statistical analysis, while my co-author confirmed and corrected the analysis as required. I wrote the first full draft of the paper. Therefore, the theoretical contributions made in this paper are largely my own.

My co-author also contributed to the theoretical development of the paper through his expertise in the area of work family interface. He provided feedback on the paper and editing. The final version of the paper was edited by an editor.

Publication status

Roche, M.A., & Haar, J. M. (2010). Work-family interface predicting needs satisfaction: The benefits for senior management. *E-Journal of Social & Behavioural Research in Business*, (1)1, 12-23.

An earlier version of this paper (full paper and peer reviewed) was presented at the following conference:

Conference

Roche, M. A., & Haar, J. M. (2010, December). *Work-family conflict and enrichment predicting needs satisfaction: The benefits of senior management*. Australia and New Zealand Academy of Management, Adelaide, Australia.

Special note on formatting, language and layout

As the following paper has been submitted to the above journal, the layout, referencing and language used is as required by the journal editors.

ABSTRACT

Work-family conflict and enrichment were used to predict the needs satisfaction of autonomy, competence and relatedness on a sample of 418 New Zealand managers. Work-family and family-work conflict was negatively related to autonomy, while family-work conflict was also negatively related to competence and relatedness. Work-family enrichment was positively related to autonomy, while family-work enrichment was positively related to competence and relatedness. In addition, we suggest senior managers will have the freedom and skills from their position to better leverage the work-family interface and

interaction effects were found towards autonomy, and family-work conflict towards competence, with senior managers reporting higher satisfaction than junior managers at all levels of conflict or enrichment. Overall, findings support the work-family interface influencing three needs satisfaction.

Key words: work-family; self determination; senior management; well-being

INTRODUCTION

Managing the interface between work and family remains a central challenge for employees and employers (Valcour 2007). The negative aspects of this interaction have been defined as work-family conflict (WFC, Greenhaus & Beutell 1985) and the positive as work-family enrichment (WFE, Greenhaus & Powell 2006). These differing perspectives on the work-family interface seek to explain fundamental tensions and benefits on an individual's capacity to coordinate obligations of work and non-work roles (Hoge 2007). Self Determination Theory (SDT) is a positive psychological motivation theory based on the premise that people actively seek opportunities to satisfy their basic psychological needs for competence, relatedness and autonomy (Deci & Ryan 2000; Greguras & Diefendorff 2009). As employees have these needs met this cultivates and ultimately culminates in higher psychological wellbeing (Deci & Ryan 2008). Van den Broeck, Vansteenkiste, De Witte and Lens (2008) found that resourcing employee's jobs aided in meeting the basic psychological needs. However, they also reported that work-home inference depleted job resources for employees, and their ability to have the needs for autonomy, competence and relatedness met. The present study tests the direct effects of work-family and family-work conflict and enrichment towards SDT needs satisfaction on a sample of managers. In addition, whether senior managers can leverage their position to buffer conflict and enhance enrichment is also explored.

WORK-FAMILY CONFLICT

Greenhaus and Beutell (1985) noted that the imbalance between work and family roles and the resultant conflict requires greater attention by researchers. WFC is a form of inter-role conflict whereby role pressures from the work and family domains are incompatible. Hence participation in one role is made more difficult by participation in other roles, such as work and family (Kahn, Wolfe, Quinn, Snoek & Rosenthal 1964). Boyar and Mosley (2007) described WFC as “the aggregate view of an individual’s perceptions of the interference between work and family domains” (p.268), which relates to *scarcity theory* which suggests there is an upper limit on an individual’s psychological and physiological resources, and as such competing demands of multiple roles often results in a tug-of-war situation where participation in one role is generally considered to be at the expense of the other role (Wayne, Musisca, & Fleeson 2004). Greenhaus and Beutell (1985) suggested that WFC is characterized by three different types of conflict relating to time, strain and research supports a bi-directionality approach, which recognizes that conflict is commonly experienced concurrently originating in the workplace and the home (Grandey, Cordeiro, & Crouter 2005). Overall, the detrimental consequences of WFC and FWC have been well established, with detrimental influences towards job and life satisfaction (Kossek & Ozeki 1998) and job outcomes (Haar, 2004). In their meta-analysis, Eby, Casper, Lockwood, Bordeaux and Brinley (2005) highlighted the large number of outcomes detrimentally influenced by conflict, and concluded that “research predicted an unfavorable relationship between work and family” (p. 180).

WORK-FAMILY ENRICHMENT

Greenhaus and Powell (2006) suggested that the work family interface may produce positive outcomes for the individual, and defined work-family enrichment as “the extent to which experiences in one role improves the quality of life in the other role” (p.72). Therefore, the workplace can positively influence an employee’s performance in their family role and this is called work-family enrichment (WFE). Alternatively, positive experiences in the family role may increase employees coping strategies, resulting in increased efficiency and work productivity, and is termed family-work enrichment (FWE) (Wayne et al 2004). Development of enrichment has been spurred by the deficiencies of conflict theory which fails to recognize the capacity of work and family domains to have positive and elevating interdependencies (Greenhaus & Parasuraman 1999). Similar to conflict, transferring of experiences between roles supports the notion that enrichment is bi-directional and distinct (Wayne Randel & Stevens 2006) and that experiences in work and family domains can provide an individual with resources which improves performance in the other domain (Grzywacz & Marks 2000). Satisfaction with work and family roles have been found to have additive effects on happiness, life satisfaction, and perceived quality of life (Greenhaus & Powell 2006). Empirical findings also suggest that involvement in multiple roles can improve psychological and mental health by buffering negative effects such as reduced stress, and have additive and positive influences on relationships, family and life satisfaction (Wayne et al 2006; Haar & Bardoel 2008; Beutell & Wittig-Berman 2008).

BASIC PSYCHOLOGICAL NEEDS

Enrichment has been theoretically associated with psychological wellbeing in terms of SDT (Warner & Hausdorf 2009). SDT postulates that the enhancement of eudaimonic wellbeing is facilitated by the innate, human potential to seek opportunities and situations that satisfy the basic psychological needs for competence, relatedness and autonomy (Deci & Ryan 2000). Therefore, an employee who has the ability to meet their needs for competence, relatedness and autonomy, will benefit by enhanced psychological wellbeing (Deci & Ryan 2008). SDT asserts that optimal functioning can only be met when one has their needs for competence, relatedness and autonomy satisfied (Deci & Ryan 2008). The *need for autonomy satisfaction* is defined as an inherent desire to act with a sense of freedom, choice and volition, that is, to be the creator of one's actions and to feel psychologically free from control and others expectations (Deci & Ryan 2000). Autonomous individuals are able to exercise choice in activities and be able to participate, based on the expectations of the self rather than others. The *need for competence satisfaction* represents the desire to feel capable, master the environment and to bring about desired outcomes (Deci & Ryan 2000). It is prominent in the propensity to explore and manipulate the environment and to engage in challenging tasks to test and extend one's skill. Finally, the *need for relatedness satisfaction* is conceptualised as the inherent predisposition to feel connected to others. That is, to be a member of a group, and to have significant emotional ties, beyond mere attachment, to others (Deci & Ryan 2000).

Various studies have confirmed the positive versus negative consequences of the satisfaction versus frustration of the basic psychological needs (Deci & Ryan 2000). The satisfaction of these psychological needs is related to increased

wellbeing (Sheldon, Ryan & Reis 1996) vitality (Reis, Sheldon, Gable, Roscoe, & Ryan 2000), positive affect (Sheldon, Elliot, Kim, & Kasser 2001). Van den Broeck, Vansteenkiste, De Witte, Soenens & Lens (in press) found that resourcing employees' jobs aided in the satisfaction of basic psychological needs, and that work-home inference depleted job resources for employees. However, little research has examined the direct effects of conflict and enrichment on the ability for employees to gain satisfaction of the three needs. Hence, if employees are under stress because of conflict from work or home, there is the likelihood that the needs of competence, relatedness and autonomy satisfaction will not be met, resulting in detrimental outcomes for organizations and employees. However, if employees are able to leverage enrichment, there is a greater chance of psychological wellbeing being enhanced for employees, with beneficial outcomes. Given that the work-family literature shows strong support for conflict being detrimental and enrichment beneficial towards various satisfaction outcomes, we expect similar effects towards the three needs satisfaction.

Hypothesis 1: Higher WFE will be positively linked to (a) autonomy, (b) competence, and (c) relatedness satisfaction.

Hypothesis 2: Higher FWE will be positively linked to (a) autonomy, (b) competence, and (c) relatedness satisfaction.

Hypothesis 3: Higher WFC will be negatively linked to (a) autonomy, (b) competence, and (c) relatedness satisfaction.

Hypothesis 4: Higher FWC will be negatively linked to (a) autonomy, (b) competence, and (c) relatedness satisfaction.

SENIOR MANAGEMENT POSITION

Schieman and Reid (2009) found that those in senior management positions (those with greater job authority) had greater work-home interference and thus enhanced levels of stress. Alternatively, others (Warr 2005) have found that freedom, and

decision making latitude, and control over ones' own (or another's) work, seemed to be the most influential attributes in positive workplace wellbeing for senior managers. Related to this, Baard, Deci & Ryan (2004) found perceived support of autonomy was linked with greater intrinsic needs satisfaction. Therefore, at senior levels, autonomy and other job resources can aid in assisting in feelings of choice and volition in activities that provide for greater freedom to initiate changes and actions (Deci & Ryan 2008). We suggest that as senior managers have greater autonomy and job resources at their disposal (Schieman & Reid, 2009), they have an ability to develop, and use as a buffer, resources to assist in the management of conflict from within, and outside, of the workplace. For example, senior managers may be able organise meetings and schedules around family issues as they are resourced to do so (Schieman & Reid, 2009). Overall, we suggest that senior managers will be able to better buffer the detrimental influence of conflict while also leveraging enrichment benefits to achieve greater satisfaction than junior managers.

Hypothesis 5: Senior managers will be able to leverage the positive influence of work-family and family-work enrichment towards (a) autonomy, (b) competence, and (c) relatedness satisfaction.

Hypothesis 6: Senior managers will be able to buffer the negative influence of work-family and family-work conflict towards (a) autonomy, (b) competence, and (c) relatedness satisfaction.

METHOD

Procedure and Samples

Data were collected from over 250 organizations, spread across a wide regional location in New Zealand. Surveys included a cover letter outlining the survey and its overall aims, and surveys were hand delivered and collected by the researcher.

Supervisors and managers were the target of this survey, and a question was included in the front of the survey to confirm they were in a position of authority (supervisor or manager). In total, 600 surveys were distributed and 418 surveys were returned for a response rate of 69.7%. On average, the participants were 37.1 years old ($SD=12.8$ years), males (57%), married (59%), parents (55%), and union members (11%). Respondents worked 39.9 hours per week ($SD=13.3$ hours), had job tenure of 5.6 years ($SD=6.4$ years) and organizational tenure of 8.9 years ($SD=8.9$ years). Education was well spread with 31.5% holding high school qualifications, 24.8% technical college qualification, 32.3% university degree, and 11.4% with a postgraduate qualification. By industry sector, 64.7% are in the private sector, 29.4% public sector and 6% not-for-profit sector.

Measures

Independent variables: Work-family conflict (WFC) and family-work conflict (FWC) were measured using 6-items from Carlson, Kacmar and Williams (2000). The statements were divided equally (3 each) between work-family and family-work dimensions. Work-family enrichment (WFE) and family-work enrichment (FWE) were measured using 6-items from Carlson, Kacmer, Wayne & Grzywac (2006). The statements divided equally (3 each) between work-family and family-work dimensions. We confirmed the separate nature of these dimensions using structural equation modeling (SEM). Studies using SEM typically offer a number of goodness-of-fit indexes suggested by Williams, Vandenberg and Edwards (2009): (1) the comparative fit index ($CFI \geq .95$), (2) the root-mean-square error of approximation ($RMSEA < .08$), and (3) the standardized root mean residual ($SRMR < .10$). The measurement model did fit the data well for a 4-factor solution: $CFI = .984$, $RMSEA = 0.050$ and $SRMR = 0.0377$. Alternative models

were run and these models all resulted in a much poorer fit than the hypothesized model. All dimensions of the work-family interface had adequate reliability (WFE $\alpha = .92$, FWE $\alpha = .91$, WFC $\alpha = .82$, and FWC $\alpha = .86$).

Dependent variables: The three needs satisfaction was measured using 21-items by Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva (2001), coded 1=not at all true, 5=very true. This measure has been widely used and validated (e.g. Greguras & Diefendorff 2009). Questions followed the stem “How important is the following to you...” and items were spread amongst the three needs. Need for Autonomy Satisfaction 7-items ($\alpha = .65$), Need for Competence Satisfaction 5-items ($\alpha = .63$) and Need for Relatedness Satisfaction 8-items ($\alpha = .78$). Despite the reliability scores for autonomy and competence being below the established acceptable coefficient alpha mark of 0.70 (Nunnally 1978), these scores are similar to others used in the literature (e.g. Greguras & Diefendorff 2009).

Moderator variable: Regarding position, Senior Manager was established by respondents noting whether they held a position of senior management in their organization, coded 1=yes, 0=no. Skewness ($=.129$) showed the senior manager position data was normally distributed.

Control variables: A number of demographic factors common to the work-family literature were controlled for (Voydanoff 2004). Gender (1=female, 0=male), Marital Status (1=married/de facto, 0=single), Total Hours Worked (per week), and Tenure (years employed in organization).

Analysis

Hierarchical regression analyses were computed with autonomy, competence and relatedness as the dependent variables. Control variables (gender, marital status, total hours worked and tenure) were entered in Step 1. WFE and FWE were entered in Step 2 and WFC and FWC were entered in Step 3. These work-family dimensions were entered separately to allow us to compare their influence. The potential moderator variable (senior manager) was entered in Step 4 and the interaction variables (enrichment and conflict dimensions each multiplied by senior manager) were entered in Step 5. The centering procedure (Aiken & West 1991) was followed (interaction variables were z-scored).

RESULTS

Descriptive statistics for the study variables are shown in Table 1 (below).

Table 1.
Correlations and Descriptive Statistics of Study Variables

Variables	M	SD	1	2	3	4	5	6	7	8	9
1. Hours Worked	39.9	13.3	--								
2. Tenure	8.9	8.9	.27**	--							
3. work-family enrichment	3.3	.81	.12*	.11*	--						
4. family-work enrichment	3.8	.74	.02	.05	.48**	--					
5. work-family conflict	2.5	.89	.02	-	.19**	.25**	.16**	--			
6. family-work conflict	2.0	.86	-.05	-.09	-.05	-	.45**	.18**	--		
7. Autonomy	3.6	.58	.17**	.25**	.24**	.11*	-.26**	-.33**	--		
8. Competence	4.0	.74	.19**	.31**	.17**	.19**	-.24**	-.35**	.54**	--	
9. Relatedness	3.9	.60	.03	.09	.19**	.27**	-.20**	-.34**	.48**	.49**	--

N=418, *p<.05, **p<.01.

Table 1 shows that WFE is significantly correlated with FWE ($r = .48, p < .01$), WFC ($r = -.25, p < .01$), autonomy ($r = .24, p < .01$), competence ($r = .17, p < .01$), and relatedness ($r = .19, p < .01$). FWE is significantly correlated with WFC ($r = -.16, p < .01$), FWC ($r = -.18, p < .01$), autonomy ($r = .11, p < .05$), competence ($r = .19, p < .01$), and relatedness ($r = .27, p < .01$). WFC is significantly correlated with FWC ($r = .45, p < .01$), autonomy ($r = -.26, p < .01$), competence ($r = -.24, p < .01$), and relatedness ($r = -.20, p < .01$), while FWC is significantly correlated with autonomy ($r = -.33, p < .01$), competence ($r = -.35, p < .01$), and relatedness ($r = -.34, p < .01$). The three needs are significantly correlated with each other ($.47 < r < .55$, all $p < .01$). Amongst the control variables, hours worked is significantly correlated with tenure ($r = .27, p < .01$), WFE ($r = .12, p < .05$), autonomy ($r = .17, p < .01$), and competence ($r = .19, p < .01$), and tenure is significantly correlated with WFE ($r = .11, p < .05$), WFC ($r = -.19, p < .01$), autonomy ($r = .25, p < .01$), and competence ($r = .31, p < .01$).

Direct Effects

Results of the regressions for the direct effects of enrichment and conflict are shown in Table 2 (below). Towards need for autonomy satisfaction (Table 2), WFE is significantly related ($\beta = .22, p < .001$), while FWE is not ($\beta = -.03$), and Step 2 shows that enrichment accounts for a moderate amount of variance (4%, $p < .01$). This supports Hypothesis 1a but not 2a. WFC is also significantly related to need for autonomy satisfaction ($\beta = -.10, p < .05$) as is FWC ($\beta = -.25, p < .001$). Step 3 shows that conflict accounts for a larger amount of variance than enrichment (9%, $p < .001$). This supports Hypotheses 3a and 4a. Towards need for competence satisfaction (Table 3), FWE is significantly related ($\beta = .13, p < .05$)

while WFE is not ($\beta = .07$), and Step 2 shows that enrichment accounts for a moderate amount of variance (3%, $p < .001$). This supports Hypothesis 2b but not 1b. Similarly, FWC is significantly related to need for competence satisfaction ($\beta = -.24$, $p < .001$), while WFC is not ($\beta = -.05$), and Step 3 shows that conflict accounts for a larger amount of variance than enrichment (7%, $p < .001$). This supports Hypothesis 4b but not 3b. Finally, towards need for relatedness satisfaction (Table 4), FWE is significantly related ($\beta = .21$, $p < .001$) while WFE is not ($\beta = .06$), and Step 2 shows that enrichment accounts for a moderate amount of variance (6%, $p < .001$). This supports Hypothesis 2c but not 1c. Similarly, FWC is significantly related to need for relatedness satisfaction ($\beta = -.27$, $p < .001$), while WFC is not ($\beta = -.02$), and Step 3 shows that conflict accounts for similar levels of variance as enrichment (7%, $p < .001$). This supports Hypothesis 4c but not 3c.

Table 2: Regression Analysis for Need for Satisfaction is shown overpage.

Table 2.
Regression Analysis for Need for Satisfaction

Variables	Autonomy	Competence	Relatedness
<i>Controls</i>			
Gender	.04	.11*	.23***
Marital Status	.05	.01	-.01
Hours Worked	.12*	.11*	.02
Tenure	.23***	.28***	.12*
R ² Change	.09***	.11***	.06**
<i>Enrichment</i>			
work-family enrichment	.22***	.07	.06
family-work enrichment	-.03	.13*	.21***
R ² Change	.04**	.03***	.06***
<i>Conflict</i>			
work-family conflict	-.10*	-.05	-.02
family-work conflict	-.25***	-.24***	-.27***
R ² Change	.09***	.07***	.07***
<i>Moderator</i>			
Senior Manager	.21***	.10*	.02
R ² Change	.04***	.01	.00
<i>Interactions</i>			
work-family enrichment x Senior Manager	-.14**	-.03	.07
family-work enrichment x Senior Manager	.05	.06	-.00
work-family conflict x Senior Manager	-.10	.02	-.10
family-work conflict x Senior Manager	.15**	.15**	.05
R ² Change	.03*	.03*	.02
Total R ²	.28	.24	.20
Total Adjusted R ²	.25	.21	.17
Total F Statistic	9.775***	7.829***	6.213***

*p<.05, **p<.01, ***p<.001. Standardized regression coefficients, all significance tests were two-tailed.

Indirect Effects

Results of the regressions for the indirect effects of senior manager position on enrichment and conflict are also shown in Table 2. There is a significant interaction effect towards need for autonomy satisfaction, between WFE and senior manager ($\beta = -.14$, $p < .01$), and FWC and senior manager ($\beta = .15$, $p < .01$). This interaction block accounts for an additional 3% ($p < .01$) of the variance towards need for autonomy satisfaction. There is also a significant interaction effect towards need for competence satisfaction, between FWC and senior manager ($\beta = .15$, $p < .01$), with this interaction block accounts for an additional 3% ($p < .01$) of the variance. This provides support for Hypotheses 5a, 6a, and 6b. To facilitate interpretation of the significant moderator effects, plots of the interactions are presented in Figures 1-3.

Figure 1 (below) shows that at low levels of WFE, there is a significant difference between respondents with senior managers reporting significantly higher levels of need for autonomy satisfaction than junior managers. When levels of WFE increase to high, junior managers report a significant increase in need for autonomy satisfaction while senior managers report only a slight increase. However, overall, senior managers report higher levels of need for autonomy satisfaction than junior managers at all levels of WFE, which support the hypothesized effects.

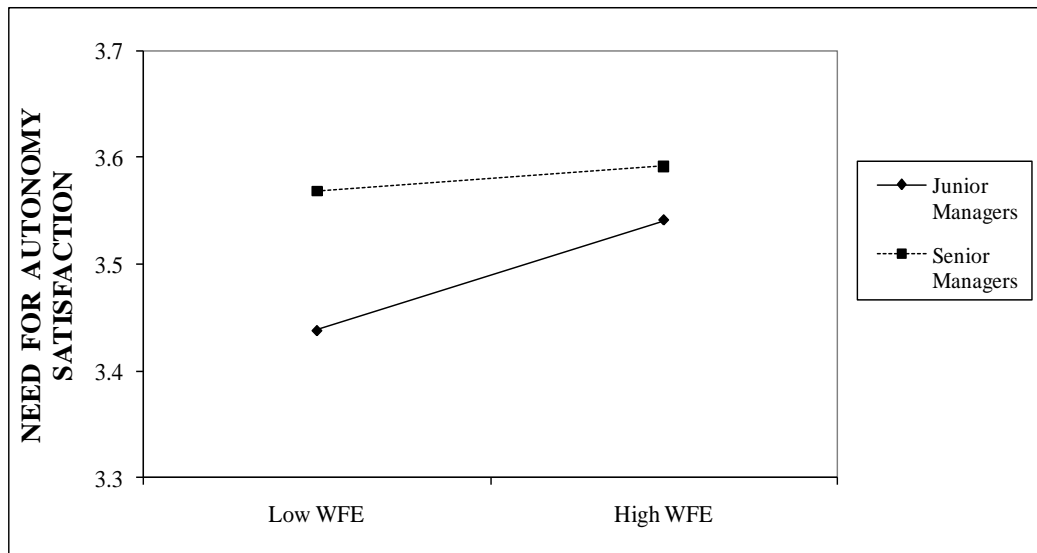


Figure 1: Interaction towards Need for Autonomy Satisfaction

Figure 2 (below) shows that at low levels of FWC, there is a significant difference between respondents with senior managers reporting significantly higher levels of need for autonomy satisfaction than junior managers. When levels of FWC increase to high, junior managers report a significant decrease in need for autonomy satisfaction while senior managers report only a much shallower reduction. Overall, senior managers report higher levels of need for autonomy satisfaction than junior managers at all levels of FWC, which support the hypothesized effects.

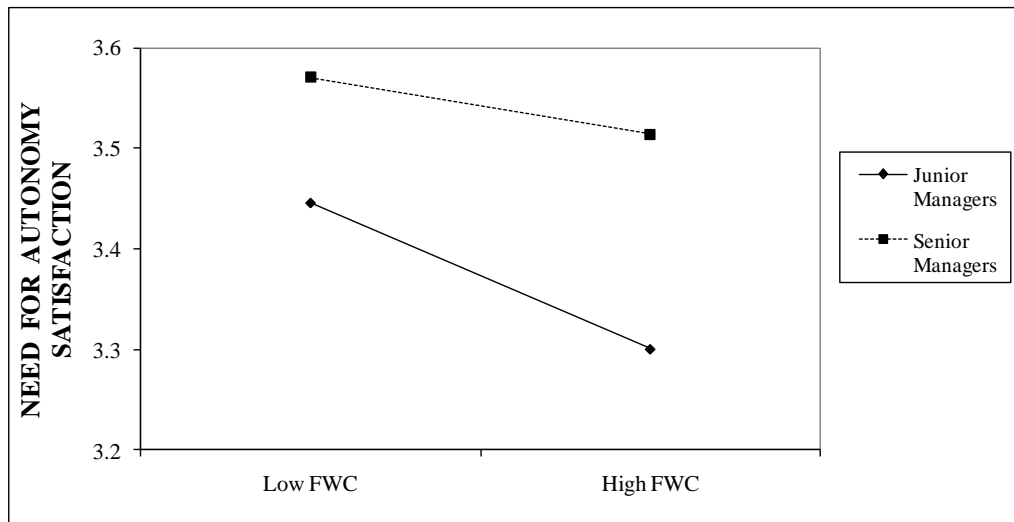


Figure 2: Interaction towards Need for Autonomy Satisfaction

Finally, Figure 3 (below) shows that at low levels of FWC, there is a significant difference between respondents with senior managers reporting significantly higher levels of need for competence satisfaction than junior managers. When levels of FWC increase to high, junior managers report a significant decrease in need for competence satisfaction while senior managers report a much shallower reduction. Overall, senior managers report higher levels of need for competence satisfaction than junior managers at all levels of FWC, which support the hypothesized effects.

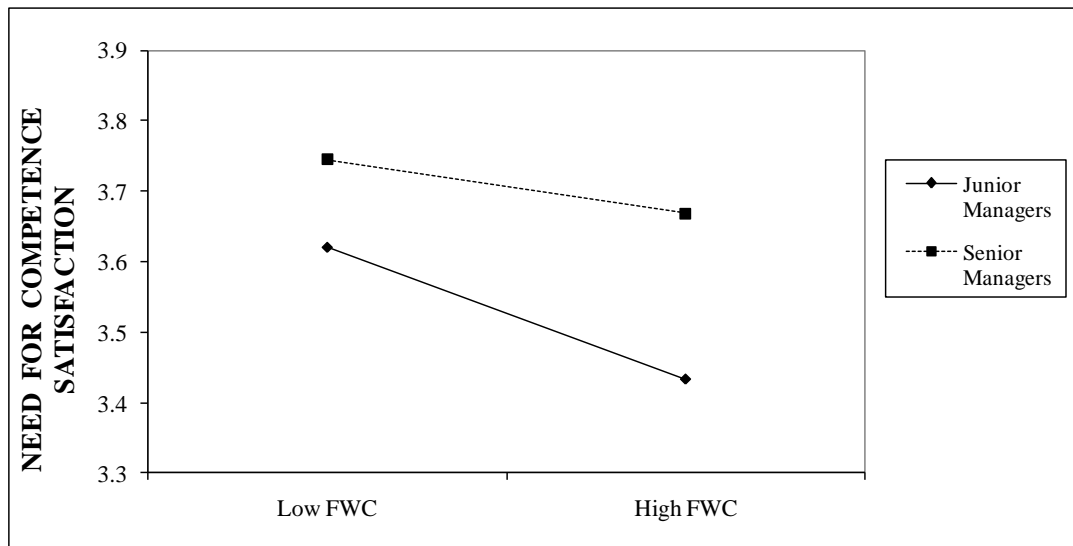


Figure 3: Interaction towards Need for Competence Satisfaction

Overall, the regression models for the three needs were significant: need for autonomy satisfaction ($R^2 = .28$, $F = 9.775$, $p < .001$), need for competence satisfaction ($R^2 = .24$, $F = 7.829$, $p < .001$), and need for relatedness satisfaction ($R^2 = .20$, $F = 6.213$, $p < .001$). Finally, the variance inflation factors (VIF) were examined for evidence of multicollinearity, which is evident at VIF scores of 10 or higher (Ryan 1997). The scores from the present study were all below 1.5, indicating no evidence of multicollinearity unduly influencing the regression estimates.

DISCUSSION

Valcour (2007) argued that balancing work and family remains a central challenge for employees and organizations and the present study explored this interface towards the three needs satisfaction. The current study found that conflict and enrichment differed in the way they impacted on managers' ability to have the three needs satisfaction met. While all conflict and enrichment variables were significantly correlated with all three needs satisfaction, their influence in the prediction models varied. With enrichment, WFE was only significantly related to

autonomy, while FWE was significantly related to relatedness and competence. These findings suggest that managers may have a greater ability to control *work* priorities, and leverage this, for example, by being able to work flexible hours when necessary. As such, enrichment from the work role may be the strongest predictor of autonomy satisfaction due to the ability of managers to leverage their work positions to enhance their satisfaction towards acting with freedom and choice (Deci & Ryan 2000). The findings with FWE linking solely towards need for relatedness satisfaction, suggest that supportive relationships at home aid in developing positive relationships and connections in the work place, which in turn enhances satisfaction with a managers connections to others such as co-workers (Deci & Ryan 2000). Furthermore, FWE was significantly related to the need for competence satisfaction, and this signifies that supportive home relationships may encourage managers to take on additional competence enhancing activities, such training and development, in turn aiding in fulfilling their need for competence at work. This might also relate to managers feeling especially satisfied in mastering aspects of their lives that are outside the workplace, where they might be assumed to have a level of established mastery due to their managerial positioning.

The influence of conflict on the three needs satisfaction was similar to that of enrichment. Both WFC and FWC were negatively related to meeting the need for autonomy, suggesting that the stress and strain associated with conflict, from work or home, regardless of the amount of job authority, is detrimental to autonomous satisfaction and thus wellbeing (Schienman & Reid, 2009). Consequently, the conflict from either role appears to reduce manager's satisfaction towards acting with freedom, choice, and control, and might indicate that the time and strain of such roles reduces manager's ability to act with greater

autonomy. The effects of conflict towards needs satisfaction of related and competence was similar to enrichment, in that only the family-work dimension was significant. Consequently, as home conflict arises relationships at work are not enhanced, suggesting that the strain of home life interferes with the ability to make meaningful connections at work, which reduces the associated satisfaction. Furthermore, the influence on the need for competence could be due to managers being overwhelmed with family issues which ultimately affect their ability to undertake further training and development, thus reduced their satisfaction with competence satisfaction.

In addition to the direct effects of the work-family interface, the present study also tested the potential moderating effects of management position. In terms of senior management levels, our findings give support to the premise that those in senior management roles would be more able to manage the boundary between work and family. Senior managers were more able to buffer conflict, and leverage enrichment, particularly in relation to autonomy and competence. This is consistent with literature that emphasizes the advantage of greater autonomy and job resources culminating in beneficial wellbeing outcomes, for those in senior management positions (Warr 2005). However, our findings further extend these outcomes by the examination of work-family enrichment and conflict. Findings demonstrate that WFE enhances the meeting of autonomy needs for senior managers, who maintain higher levels of autonomy satisfaction at all levels of conflict, above those of junior managers. This provides additional effects from enrichment for senior managers, which has previously been unexplored. However, these beneficial effects should not be surprising. Work-family enrichment theory suggests that skills, abilities, and values from one role can be applied effectively

in another role and this instrumental category provides clear applications towards this finding. It suggests that senior managers will have greater workplace skills that can aid their personal autonomous beliefs, and further their abilities and values may uphold the importance of autonomy, allowing them to attain greater benefit towards autonomy than their junior colleagues.

The effects of senior management position on the relationships between family-work conflict and autonomy and competence satisfaction were similar. In both these interactions, senior managers maintained higher levels of autonomy and competence satisfaction at all levels of FWC, compared to junior managers. As such, senior managers were better able to buffer the influence of conflict entering the workplace from the family boundary, potentially due to their greater access to resources in order to manage this conflict. The ability to buffer the negative aspects of conflict in reducing autonomy and competence needs being met is likely due to senior managers being more able to leverage their position, perhaps through being able to take time out of their work schedule to deal with family emergencies immediately. Unlike junior managers who may need to seek the approval and validation of a superior, perhaps senior managers are better equipped through the legitimacy of their position to handle these conflicts efficiently. As such, the impairment of FWC on satisfaction with freedom and control and maintaining mastery of their environment is easier for senior managers who may also have greater experience, expertise, skills and knowledge to buffering these effects. Furthermore, Haar, Spell & O'Driscoll (2004) found work-family practice knowledge was related to greater benefits and perhaps senior managers are more likely to have intimate knowledge of policies to enable them to buffer these types of conflict.

Given the shortage of quality leadership and management, further research could expand the SDT by examining the role of autonomy support to see whether this improves the ability of managers, including junior managers, to buffer conflict and enhance enrichment effects towards the satisfaction of the three needs. In particular, by providing for resources that allow for the better management of conflict and enriching effects in junior managers may encourage participation into higher management positions (Spreitzer 2006), thus reducing the shortage of quality leaders and managers. Overall, consistent with SDT's claim that the satisfaction of each of the three basic needs contributes to individuals' flourishing (Deci & Ryan 2000), our study provides impetus for organizations to consider how managers, at different levels within an organization, might want to assess and regulate the need supportive character of their work environments. Hence, our findings provide further evidence that supporting managers in navigating the work and home interface can flow onto meeting their need satisfaction and ultimately their wellbeing. This may also enhance managers ability to function at an optimal level and, therefore, help to reduce costs associated with stress, turnover, and increase productivity, again especially in light of the looming management shortage (Spreitzer 2006).

One limitation of the present study was the use of self-reported data collected at a single point of time, raising concerns towards common method variance. We conducted Harman's One Factor Test as a rudimentary check for common method variance and the resulting factor analysis (unrotated) resulted in 10 factors, the largest accounting for 19.4% of the variance, providing little evidence of common method variance (Podsakoff & Organ 1986). Furthermore, the use of SEM on the work-family variables does somewhat mitigate this factor (Kenny 2008), as does

testing interaction effects, which are not as susceptible to method variance compared to main effects (Evans 1985).

Overall, the present study meets calls for greater exploration of the work-family interface towards the three needs satisfaction, and provides additional benefits by showing that higher managerial position may provide greater benefits for achieving needs satisfaction and ultimately greater wellbeing. Clearly the work-family interface can play a significant and important role in influencing the three needs satisfaction, and further research is needed to improve the generalizability of these findings.

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CHAPTER 9

THE METAMODEL

Paper title

A Meta-Model Approach Towards Self Determination Theory: A Study of New Zealand Managers' Organizational Citizenship Behaviours.

Declaration

I developed the theoretical model for the paper. I instigated data collection in conjunction with the second author (Professor Haar) and I had overall responsibility for the collection of data. I was responsible for data entry and cleaning and completed the initial statistical analysis for the paper in SPSS. I wrote the first full draft of the paper. The theoretical contributions made in this paper are my own.

Due to the number of dimensions and variables, my co-author assisted in the regression analysis, particularly in the moderated regression analysis and the use of alternative measures for aspirations and motivations (see chapter two). My co-author provided feedback on the paper and editing. The final version of the paper was edited by an editor.

Publication status

Roche, M. A. & Haar, J. M. (*in press*). Meta-Model Approach towards Self-Determination Theory: A Study of New Zealand Managers' Organisational Citizenship Behaviours. *International Journal of Human Resource Management* [ABDC List Ranked A].

An earlier version of this paper (full paper and peer reviewed) was presented at the following conference:

Conference

Roche, M. A., & Haar, J. M. (2011, August). *Self-determination theory and job outcomes: The moderating effects of perceived autonomous support*. Paper presented at the Academy of Management Conference, Texas.

Special note on formatting, language and layout

As the following paper has been submitted to the above journal, the layout, referencing and language used is as required by the journal editors.

We received feedback from the reviewers about the complicated language and similarity in terms with the metamodel. In this paper we therefore refer to the motivations dimensions as 'autonomous' and 'controlled', rather than 'self-determined' and 'non-self determined'. This is consistent with other authors' use of the motivations terminology, and provides clarity and assists with readability.

ABSTRACT

The present study brings together the multiple dimensions of self-determination theory (SDT), the three facilitators (global aspirations, global motivation and mindfulness), the three needs (autonomy, competence and relatedness), and perceived autonomous support (PAS) towards the organisational citizenship behaviours (OCBs) of 386 New Zealand managers. SDT suggests that individuals with higher SDT dimensions will achieve greater motivation and wellbeing, however, few studies include more than one SDT dimension. The findings show that overall the majority of SDT dimensions were significantly correlated to OCB dimensions. Moderated regression analysis found that autonomous motivation was positively related to OCBs with controlled motivations negatively related to OCBs. PAS and most of the need satisfaction dimensions were also positively related to OCBs. Intrinsic aspirations were related to OCBs individual only. PAS was also tested as a moderator of SDT dimensions, and five significant interactions were found to influence OCB individual and one to influence OCBs organisational. Overall, the highest levels of OCBs were reported by managers with higher than average PAS and those who rated highly on the SDT dimensions. This study provides strong and consistent support that SDT dimensions influence OCBs, and the consistent influence of PAS highlights the importance of workplace context.

Keywords: *self-determination theory, metamodel, organisation citizenship behaviours (OCBs), motivation, wellbeing.*

INTRODUCTION

SDT is a theory of motivation that maintains that individual pursuit of autonomy, challenge and enhanced relationships aid individual wellbeing. SDT maintains that the pursuit of these experiences culminate in an authentic sense of self that is, crucially, regulated by the self (Deci and Ryan 2000; Greguras and Diefendorff 2009; Ryan and Deci 2008; Vansteenkiste, Neyrink, Niemiec, Soenens, De Witte and Van den Broeck 2007; Greguras and Diefendorff 2009). SDT is a composite of five separate, yet integrated, mini theories of wellbeing. These distinct mini theories are incorporated into a 'meta' model of SDT. Hence, SDT referred to as a metamodel for framing motivation and wellbeing studies (Deci and Vansteenkiste 2004). The five separate mini theories that aid wellbeing are known as the three facilitators of (1) aspirations, (2) motivations, and (3) mindfulness, which assist the individual in meeting (4) the three basic needs for autonomy, competence and relatedness. Finally (5) the context, termed perceived autonomous support (PAS), aids the degree to which individuals are able to integrate these experiences of wellbeing into a sense of self (Deci and Ryan, 2000).

The present study makes three major contributions. First, it is the first to test the full metamodel of SDT within the workplace. Previous studies tend to focus on only one mini theory at a time: Therefore only single mini theories (which are referred to hereonin as dimensions) of SDT, not the entire metamodel of SDT, have been tested in the workplace. Second, it is the first study to test OCBs by linking SDT dimensions to wellbeing that is associated with the workplace. Third, it tests the

potential moderating effects of PAS, and ultimately, highlights the importance of SDT dimensions towards OCBs and the additional benefits PAS creates for employees. The SDT dimensions are discussed in the following paragraphs.

ASPIRATIONS

SDT asserts that it is the nature of a person's life goals (aspirations) that enhances or diminishes wellbeing. SDT distinguishes between intrinsic aspirations, such as personal growth, affiliation, and community contribution, and extrinsic aspirations, such as financial success, physical attractiveness, and fame (Kasser and Ryan 1993, 1996). Intrinsic aspirations reflect people's inherent growth orientation and are considered to be innately satisfying (Deci and Ryan 2000). In contrast, extrinsic aspirations have an outward orientation: 'having' orientation (Van Boven and Gilovich 2003) and success is contingent upon attainment of external signs of self-worth such as image and fame (Patrick, Neighbors and Knee 2004). Extrinsic aspirations manifest in illbeing such as stress and dissatisfaction (Deci and Ryan 2000). This is because extrinsically orientated individuals are likely to have contingent self-regard, where self-worth is dependent on obtaining external signs of success. For example, external evaluation of one's wealth, attractiveness and fame is what drives a person (Kernis 2003). As such this external regard in turn undermines wellbeing (Ryan and Deci 2008). Extrinsic aspirations have been related positively to anxiety and depression, and negatively to vitality, self-actualisation, life satisfaction, and socially adaptive functioning (Sheldon, Ryan, Deci and Kasser 2004). Intrinsic aspirations are consistent with requirements for the satisfaction of the needs for autonomy, competence, and relatedness (explained further below) (Vansteenkiste et

al. 2007), and have been found to relate positively with outcomes such as job satisfaction, flexibility and overall positive adjustment (Vansteenkiste et al. 2007). Consequently the pursuit of extrinsic aspirations has been associated with poorer wellbeing (Sheldon and Kasser 2008), reduced pro-social behaviour (Duriez, Vansteenkiste, Soenens and De Witte 2007), and less optimal functioning (Kasser and Ryan 1993,1996; Deckop, Jurkiewicz and Giacalone 2010). Conversely, intrinsic aspirations are associated with wellbeing, positive psychological functioning and flourishing (Sheldon and Filak 2008; Sheldon, Ryan, Deci and Kasser 2004; Vansteenkiste et al. 2007).

MOTIVATIONS

SDT asserts that wellbeing is enhanced when engagement in an activity is freely chosen, termed autonomous motivation. Alternatively, being pressured to undertake an activity, termed controlled motivation, results in reduced wellbeing. Autonomous motivation represents high quality motivation, and is characterised as the tendency towards internalised self-regulation. As such, intrinsic interest or engagement in an activity that is in accordance with one's values and beliefs, represents autonomous motivation (Olesen, Thomsen, Schnieper and Tønnesvang 2010; Deci and Ryan 2000). For example, an employee who works long hours on a project that is interesting or important to them is autonomously motivated.

Controlled motivation, the less favoured type of motivation, occurs when individuals engage in activities because they feel pressured or controlled. This pressure can stem from internal intra-psychic constraints, such as ego enhancing activities ('being the manager enhances my ego'), or external pressure (such as working on an activity to

ensure payment) (Deci and Ryan 2000). As such, controlled motivation has been found to exacerbate feelings of conflict, stress and pressure, and hence sub-optimal functioning (Deci and Ryan 2000). Alternatively, adopting autonomous motivation yields positive effects in terms of greater wellbeing and performance in activities (Ryan and Deci 2008), a finding validated by research conducted in the workplace (see Gagné and Deci 2005; Van den Broeck, Vansteenkiste and De Witte 2008). Furthermore, autonomous motivation has been negatively related to anxiety, exhaustion, burnout, and turnover intentions (Parker, Jimmieson and Amiot 2010; Fernet, Guay and Senécal 2004; Milette and Gagné 2008), and positively related to work engagement (Richer, Blanchard and Vallerand 2002), affective organisational commitment (Gagné, Chemolli, Forest and Koestner 2008), and job performance (Bono and Judge 2004).

MINDFULNESS

Mindfulness is the last facilitator and is characterised by a non-judgmental and open orientation to present circumstances and current situations (Martin 1997). Mindfulness fosters a fuller awareness of what is occurring in the present, and, as such, is conducive to behaviours which are congruent with individual motivation and wellbeing (Brown and Ryan 2003). SDT asserts that whether or not people take ownership for their own wellbeing and behaviour is based on the self endorsement of their actions: this includes mindful reflection of one's underlying motivation (Chirkov 2011). When people are mindful and aware of what is really occurring they are in a better position to make meaningful choices and to act in an integrated manner. A core characteristic of mindfulness has been described as an *open* or *receptive*

awareness and attention to the current experience or present reality (Kabat-Zinn 2003). Therefore, when individuals behave impulsively or automatically, without awareness of, or attention to, their thinking patterns and behavioural tendencies, mindfulness is compromised (Brown and Ryan 2003; Ryan and Deci 2008). Mindfulness has received substantial attention with regards to its relationship with wellbeing (e.g. Brown and Ryan 2003; Weinstein, Brown and Ryan 2009) and stress reduction (e.g. Grossman, Niemann, Schmidt and Walach 2004; Shapiro, Astin, Bishop and Cordova 2005; Weinstein and Ryan, 2011) and has been associated only recently with employee wellbeing and performance (Dane 2011).

Jimenez, Niles and Park (2010) found support for the important role of mindfulness on wellbeing. Their findings showed that higher levels of mindfulness were associated with higher levels of positive emotions, mood regulation expectancies, and self-acceptance, which, in turn, were all negatively related to depressive symptoms. From an SDT perspective, evidence from recent research underscores the importance of mindfulness in promoting autonomous regulation (Ryan and Deci 2008). Brown and Ryan (2003) showed that both within and between person levels of analysis, an association between greater mindfulness and autonomous self regulation was evident. More recently, SDT studies have shown that people who are more mindful embrace more intrinsic (as opposed to extrinsic) values and there is less discrepancy between what they have and what they want (Brown, Ryan and Creswell 2007).

THE THREE NEEDS

Within SDT the unifying concept of psychological needs provides the “framework for integrating findings” (Deci and Ryan 2000, p. 263). With SDT, a critical issue in the effects of goal pursuit, motivation and attainment concerns the degree to which people are able to experience the psychological needs of autonomy, competence and relatedness (Ryan and Deci 2008; Sheldon and Niemiec 2006; Sheldon and Filak 2008). These three needs are considered necessary for optimal functioning. The *need for autonomy* is defined as a desire to act with a sense of freedom, choice and volition; to be the creator of actions and to feel psychologically free from others’ control and expectations (Deci and Ryan 2000). The *need for competence* represents the desire to feel capable, master the environment and to bring about desired outcomes (Deci and Ryan 2000; White 1959). Competence is prominent in those with the propensity to explore and influence the environment, and to engage in challenging tasks to test and extend their skill, that aids a sense of accomplishment. Finally, the *need for relatedness* is conceptualised as the inherent predisposition to feel connected to others: to be a member of a group, and to have significant emotional ties, beyond mere attachment, to others (Baumeister and Leary 1995; Deci and Ryan 2000). Therefore, the need for relatedness is satisfied if people experience a sense of unity and maintain close relationships with others.

All three needs are considered essential to wellbeing (Deci and Ryan 2000). Various studies have confirmed the positive versus negative consequences of satisfaction versus frustration of the three needs (Deci and Ryan 2000). The needs for autonomy, competence and relatedness have been shown to relate positively to

employees' work related wellbeing in terms of task and job satisfaction, work engagement, learning, affective commitment, job performance, self-rated performance, intrinsic motivation, organisational commitment, organisational citizenship behaviours, life satisfaction and general wellbeing (Greguras and Diefendorff 2009, 2010; Lynch, Plant and Ryan 2005; Vansteenkiste et al. 2007; Van den Broeck et al. 2008).

PERCEIVED AUTONOMY SUPPORT (PAS)

Central to SDT is the role that the environment plays in supporting, or hindering, wellbeing. Thus the environment, not only the individual factors listed above, is crucial in enabling wellbeing (Gagné 2003; Gagné, Ryan and Bargmann 2003). According to SDT, all people have the capacity to pursue growth and development, but success in experiencing wellbeing is dependent upon the environment within which these opportunities are sought. Within the workplace, motivation and wellbeing are likely to be satisfied when the environment supports self-determination: this is termed perceived autonomy support (PAS) (Ryan and Deci 2008). Deci, Connell, Ryan and Chirkov (1989), using an intervention study, found that the method in which feedback was given to employees enhanced PAS and positive work related outcomes. They found that feedback that was non-controlling and provided for choice and initiative, improved attitudes and trust within organisations. Overall, when Deci et al (1989) compared the findings from the controlled intervention site to the other sites, the training increased PAS. The changes crossed over to subordinates, who reported greater trust in the organisation, felt supervision was of a higher quality, and experienced increased job related satisfaction.

Gagné (2003) showed that, in a volunteer work organisation, the levels of PAS related positively to the needs satisfaction of the volunteers, which in turn related positively to the amount of time they volunteered for the activity, and negatively to the likelihood of their leaving the organisation. Baard, Deci and Ryan (2004) found support, in both Bulgarian and American samples, for a model where PAS was related to the satisfaction of employees' psychological needs, which was then related to employees' higher performance evaluations, engagement in their work, and wellbeing. Richer and Vallerand (1995) found that PAS stimulated autonomy and competence, while other studies have shown that PAS can aid employees' acceptance of change (Lynch et al. 2005; Gagné, Koestner and Zuckerman 2000). Furthermore, Hagger, Chatzisarantis, Barkoukis, Wang and Baranowski (2005) found that PAS was significantly related to a number of outcomes, including attitudes and intentions, across a number of different sample settings (British, Greek, Polish and Singaporean). Consequently, the direct effects of PAS have been supported in a wide range of national settings.

ORGANISATIONAL CITIZENSHIP BEHAVIOURS

The five separate SDT dimensions are now applied to a workplace outcome. Organisational citizenship behaviours (OCBs) are defined as “discretionary behaviours that are not directly or explicitly recognised by the formal reward system and that, in the aggregate, promote the effective functioning of the organisation” (Organ 1988, p. 4). OCBs are the extra role behaviours that go beyond the directed formal obligations prescribed in job descriptions (Katz and Kahn 1978). Such behaviours include an employee’s willingness to follow rules, persist, volunteer, help, and cooperate (Borman and Motowidlo 1993). Because of the high competition rates, employee recruiters have been found to prefer to employ those who can be expected to go the extra mile in the workplace (Chan, Taylor and Markham 2008). Organ, Podsakoff and MacKenzie (2005) defined OCBs as discretionary employee behaviours performed for the benefit of the organisation or co-workers that exceed nominal job requirements and which are not formally recognized by the organisation. In that definition, the concept has been classified into two directions: (1) OCBs which benefit the individual and (2) OCBs which benefit the organisation. Researchers, such as Salam, Cox and Sims (1996), argued that OCB is really interactive and ‘social’ in nature. Consequently, managers’ OCBs have been found to be particularly important in enhancing team level OCBs (Yaffe and Kark 2011).

OCB individual includes self-disciplined behaviour, such as following rules, putting forth effort, demonstrating commitment and motivation, and taking the initiative to solve a problem at work (Calson, Witt, Zivnuska, Kacmar and Grzywacz 2008). It can also include OCBs towards individuals, such as helping others, assisting

supervisors, listening to others, helping new employees and passing along information to co-workers (Chen, Niu, Wang, Yang and Tsaur 2009). OCB organisation is composed of interpersonally oriented behaviours that contribute to organisational accomplishment. It includes behaviours that assist in the building and mending of relationships, putting people at ease, encouraging cooperation, increasing consideration of others and expressing compassion and sensitivity (Carlson et al. 2008). It also includes behaviours such as attending non-required meetings and sharing ideas with others, which function to keep workers informed of organisational strategies and to engage them in efforts to improve the organisation (Lambert 2000).

Hypotheses

Based on the SDT literature above, we hypothesise a number of direct positive relationships with OCBs. We suggest, that given the beneficial role of intrinsic aspirations, autonomous motivations and mindfulness, these dimensions of SDT will be positively related to OCBs. Alternatively, we suggest extrinsic aspirations and controlled motivations will be negatively related to OCBs. In this regard, workers who have intrinsic, as opposed to extrinsic, aspirations are more likely to engage in work roles beyond their contracts. Similarly, workers who are predominantly driven by autonomous, rather than controlled, motivation, and who are more mindful and aware of the present, are more likely to engage in OCBs.

Hypothesis 1: Higher intrinsic aspirations will be positively related to OCBs.

Hypothesis 2: Higher extrinsic aspirations will be negatively related to OCBs.

Hypothesis 3: Higher mindfulness will be positively related to OCBs.

Hypothesis 4: Higher autonomous motivations will be positively related to OCBs.

Hypothesis 5: Higher controlled motivations will be negatively related to OCBs.

In addition to testing the facilitators of SDT (aspirations, mindfulness and motivations), we also test the influence of the three needs satisfaction towards OCBs, suggesting that workers who have experienced the three needs of autonomy, competence and relatedness, will be more willing to engage in extra-role behaviours. For example, workers who feel that their needs for competence in the workplace are being met may, as a result of their enhanced competence, demonstrate greater citizenship behaviours, such as giving greater assistance to colleagues and the organisation. This leads to the next set of direct hypotheses.

Hypothesis 6: Higher need for autonomy satisfaction will be positively related to OCBs.

Hypothesis 7: Higher need for competence satisfaction will be positively related to OCBs.

Hypothesis 8: Higher need for relatedness satisfaction will be positively related to OCBs.

Interaction Effects

As noted above, SDT studies have found that PAS leads to greater satisfaction of the needs for competence, relatedness, and autonomy and, in turn, to more job satisfaction, higher performance evaluations, greater persistence, greater acceptance of organisational change, and better psychological adjustment (Baard et al. 2004; Deci et al. 2001; Gagné et al. 2000; Ilardi, Leone, Kasser and Ryan 1993; Gangé and

Deci 2005). Overall, there is strong support for the notion that PAS has a positive influence on outcomes. However, as noted earlier, studies utilising SDT dimensions do not typically test the metamodel, which includes all the aforementioned dimensions. Furthermore, while SDT dimensions have been widely tested, they are seldom tested in the workplace context. The present study asserts that the workplace provides an additional and important context for studies of SDT and indeed, the previously mentioned studies have shown PAS to have an important direct effect on outcomes. We suggest that PAS will similarly directly influence OCBs to such a degree that employees who feel their autonomy is supported in the workplace will reciprocate with higher OCBs, consistent with social exchange theory (Haar and Spell 2004).

Hypothesis 9: Higher PAS will be positively related to OCBs.

In addition to direct effects, we also test the potential moderating effects of PAS on the various SDT dimensions to determine whether PAS plays a role in enhancing, or buffering, these SDT dimensions effects. We suggest that the workplace context of PAS will further enhance positive SDT dimensions (intrinsic aspirations, autonomous motivations, mindfulness, and the three needs), and buffer negative SDT dimensions (extrinsic aspirations, controlled motivations). For example, employees with high autonomous motivation may be more willing to engage in OCBs as a result of being intrinsically motivated by their work. However, employees in organisations that fail to support autonomy would likely exhibit lower OCBs. Alternatively, higher PAS should lead to increased OCBs. While the moderating effects of PAS have been tested with motivation (Guay, Boggiano and

Vallerand 2001), it has not been comprehensively tested with the entire metamodel, which opens an area for further contribution.

Hypothesis 10: PAS will moderate (enhance) the effects of the positive SDT dimensions (intrinsic aspirations, mindfulness, autonomous motivation, three needs satisfaction) towards OCBs, while buffering the negative SDT dimensions (extrinsic aspirations, controlled motivation) towards OCBs.

METHOD

Sample and Procedure

Data were collected from over 250 organisations, spread across a wide regional location in New Zealand. Supervisors and managers were the target of this survey, and a question was included in the front of the survey to confirm that participants were in a position of authority (supervisor or manager). A total of 418 surveys (from 600) were returned, for a response rate of 69.7%. Survey one included items relating to the three facilitators, three needs, PAS, as well as demographic variables. Two weeks later survey two, containing the OCB measure, was administered to the same participants, and this was completed by 386 respondents, for an overall response rate of 64.3%. On average, the participants were 37.4 years old ($SD=13$), 58% were male, married (59%), parents (54%), and union members (12%). Respondents worked 39.7 hours per week ($SD=13.4$), had job tenure of 5.7 years ($SD=6.6$) and organisational tenure of 9 years ($SD=9.3$). Education levels were diverse, with 31.3% having a high school qualification, 23.2% a technical college qualification, 33.5% a university degree, and 12% a postgraduate qualification. By race, 62.6% were European/white, 23.3% Asian, 8.4% Maori (indigenous people of New Zealand), 3.1% Indian, 1%

Pacific Islander, and 1.6% other ethnicity. By industry sector, 64.3% were from the private sector, 29.5% public sector, and 6.2% from the not-for-profit sector, and, on average, managers worked in firms with 580 employees ($SD=2215$).

Measures

Independent Variables

Aspirations were assessed using 30-item Aspirations Index by Kasser (2002), coded 1 = not at all, 5 = very. Questions followed the stem “Please circle the number that best represents your opinion relating to the following goals or aspirations that you hope to accomplish over the course of your life”. These items connect to six dimensions, which relate to Intrinsic Aspirations (meaningful relationships, personal growth, and community contributions) and Extrinsic Aspirations (wealth, fame, and image). Sample items are “To have many expensive possessions” (wealth aspirations) and “To gain increasing insight into why I do the things I do” (personal growth aspirations). As per Brown and Kasser (2005), we calculated both global aspiration dimensions (intrinsic and extrinsic) by totaling each of their three dimensions. Individually, each dimension had adequate reliability ($.75 < \alpha < .91$).

Motivations were calculated using 18-items by Tremblay, Blanchard, Taylor, Pelletier and Villeneuve (2009), coded 1 = does not correspond at all, 5 = corresponds exactly. These items relate to six dimensions: Autonomous Motivation (intrinsic motivation, integrated regulation and identified regulation) and Controlled Motivation (introjected regulation, external regulation, and amotivation). We used the same technique as Blanchard, Tremblay, Mask and Perras (2009), where the more

important autonomous v controlled dimensions are weighted (3 x intrinsic motivation and amotivation; 2 x integrated regulation and external regulation; 1 x identified regulation and introjected regulation). Sample items are “Because I derive much pleasure from learning new things” (intrinsic motivation) and “I don’t know why, we are provided with unrealistic working conditions” (amotivation). Individually, each dimension had adequate reliability ($.80 < \alpha < .88$).

Mindfulness was measured using the 15-items of Brown and Ryan (2003), coded

1 = never, 5 = all of the time. A sample item is “I could be experiencing some emotion and not be conscious of it until sometime later”. All 15 items are reverse scored: the higher score indicates greater mindfulness and awareness of the present ($\alpha = .91$).

The three needs were measured using 21-items by Deci, Ryan, Gagné, Leone, Usunov and Kornazheva (2004), coded 1 = not at all true, 5 = very true. Questions followed the stem “How important is the following to you...” and items were spread amongst the three needs. Autonomy was measured using 7-items: a sample item is “I feel like I can make a lot of inputs to deciding how my job gets done” ($\alpha = .65$). Competence was measured using 5-items: a sample item is “People at work tell me I am good at what I do” ($\alpha = .63$). The item “I have been able to learn interesting new skills on my job” was dropped because it dragged the reliability down too low (if included $\alpha = .52$). Relatedness was measured using 8-items: a sample item is “I get along with people at work” ($\alpha = .78$). Despite the reliability scores for autonomy and competence being below the established acceptable coefficient alpha mark of 0.70

(Nunnally 1978), these scores are similar to others used in the literature. For example, Greguras and Diefendorff (2009), in a study of Singapore workers, reported similarly low reliabilities on these two needs: autonomy ($\alpha = .66$) and competence ($\alpha = .67$). These poor reliabilities may be due to the measure itself, especially with regards to how it relates to these two dimensions.

Moderator Variable

Perceived Autonomous Support was measured by six items by Baard, et al (2004) coded

1 = strongly disagree, 5 = strongly agree. A sample item is “My manager listens to how I would like to do things” ($\alpha = .92$). A higher score indicates employees perceive greater support for autonomy.

Dependent Variables

OCB Individual and OCB Organisation were measured using 8-items for each variable, adapted from Lee and Allen (2002), and coded 1 = never, 5 = always. Sample items are “Help others who have been absent” (Individual, $\alpha = .87$) and “Offer ideas to improve the functioning of the organisation” (Organisation, $\alpha = .91$).

Control Variables

We controlled for personal variables: age (in years), gender (1 = female, 0 = male), highest level of education (1 = high school, 2 = technical college qualification, 3 = university degree, 4 = postgraduate qualification). In addition, organisational variables were controlled because of the wide range of firms and industries: private sector (dummy variable 1=yes, 0=no), and firm size. Firm size was measured by the number of employees. While this variable had a high level of skew-ness (6.9), a log-transformation was conducted on firm size to induce normality (Stone and Hollenbeck 1989). After the log transformation, the skewness was within normal boundaries of ± 1.0 (0.82).

Analysis

Hierarchical regression analysis was used to analyse the data, with OCBs as the criterion variables. Control variables were entered in Step 1 (age, gender, education, private sector and firm size) and the facilitators entered in Step 2 (intrinsic aspirations, extrinsic aspirations, mindfulness, autonomous motivation and controlled motivation). The three needs dimensions (autonomy, competence and relatedness) were entered in step three. The potential moderator (PAS) was entered in Step 4, and the interactions between PAS and the eight predictor variables were entered in Step 5. To address issues of multi-collinearity, mean centring of the interaction terms was undertaken (Aiken and West 1991).

RESULTS

Descriptive statistics for the study variables are shown in Table 1.

Insert Table 1 about here

Table 1 shows that towards both dimensions of OCBs, intrinsic aspirations autonomous motivation, all three needs satisfaction dimensions and PAS are significantly correlated (all at $p < .01$). Mindfulness is significantly correlated only with OCB organisation ($p < .05$), while extrinsic aspirations and controlled motivations are both not significantly correlated.

Results of the hierarchical regression for Hypotheses 1 to 10 are shown in Tables 2 and 3.

Insert Tables 2 and 3 about here

Direct Effects

Table 2 shows that towards OCB individual, intrinsic aspirations are significantly related ($\beta = .10$, $p < .1$), as are autonomous motivation ($\beta = .12$, $p < .05$) and controlled motivation ($\beta = -.12$, $p < .1$). From the R^2 Change figures in Step 2 we can see that facilitators accounted for a modest amount of variance only (5%, $p < .05$). The three needs dimensions of autonomy ($\beta = .18$, $p < .05$) and relatedness ($\beta = .12$, $p < .1$) are also significant predictors, and the R^2 Change (Step 3) shows they also account for a modest amount of variance (6%, $p < .01$). In Step 4, PAS is shown to be a significant predictor ($\beta = .29$, $p < .001$) and also accounts for a modest amount of variance (7%, $p < .001$). Table 3 shows that of the facilitators, only motivation is significantly related towards OCB organisation: this is for both autonomous motivation ($\beta = .30$, $p < .001$) and controlled motivation ($\beta = -.16$, $p < .05$). From the R^2 Change figures in Step 2 we can see that facilitators accounted for a moderate amount of variance (11%, $p < .001$). All three needs dimensions (autonomy, competence and relatedness) are also significant predictors: autonomy ($\beta = .24$, $p < .01$), competence ($\beta = .13$, $p < .1$), and relatedness ($\beta = .19$, $p < .01$). The R^2 Change (Step 3) shows that the three needs dimensions also account for a moderate amount of variance (11%, $p < .001$). In Step 4, PAS is also shown to be a significant predictor ($\beta = .37$, $p < .001$) and accounts for a moderate amount of variance (11%, $p < .001$).

Overall, there is partial support for Hypothesis 1 and 7 and strong support for Hypotheses 4 5, 6, 8 and 9.

Interactions

Tables 2 and 3 show a number of significant interactions, with PAS interacting significantly with five of the SDT dimensions towards OCB individual: intrinsic aspirations ($\beta = -.14$, $p < .05$), extrinsic aspirations ($\beta = .18$, $p < .01$), autonomous motivation ($\beta = .13$, $p < .05$), controlled motivation ($\beta = -.16$, $p < .05$), and needs satisfaction autonomy ($\beta = -.19$, $p < .05$). From Step 5, we can see the interactions accounted for an additional 5% ($p < .1$) variance. Towards OCB organisation, only one interaction was significant, and this was between PAS and needs satisfaction relatedness ($\beta = .15$, $p < .05$). From Step 5, we can see the interactions accounted for an additional 3% (non significant) variance.

To facilitate interpretations of the significant moderator effects, the interactions are presented in Figures 1 to 6.

Insert Figures 1 to 6 about here

Overall, the plots of the interactions all show similar findings, with respondents with high levels of PAS reporting the highest levels of OCBs towards both individual and organisation dimensions compared to respondents reporting low PAS. PAS enhanced the positive influences of some SDT dimensions (specifically Figures 3, 5 and 6) which means managers were able to lever their own autonomous motivations and needs satisfactions to achieve greater OCBs with higher PAS. Furthermore, PAS buffered the reduction in OCBs through controlled motivation (Figure 4). Two unusual findings were that PAS enhanced the OCBs (a positive effect) of a

theoretically detrimental SDT dimension, extrinsic aspirations (Figure 2), which indicates that PAS was able to ‘override’ this detrimental influence and create enhancement effects. Finally, while respondents with high intrinsic aspirations (Figure 1) tended towards a slight reduction in OCBs, for those who also had high PAS, the overall level of OCBs was still greater than those with high intrinsic aspirations and low PAS, which ultimately still supports our assertions. Overall, there is strong support for Hypothesis 10.

In summary, the regression models were significant and sizeable: OCB individual ($R^2 = .25$, $F = 3.335$, $p < .001$) and OCB organisation ($R^2 = .37$, $F = 6.088$, $p < .001$). Finally, the variance inflation factors (VIF) were examined for evidence of multicollinearity, which is evident at VIF scores of 10 or higher (Ryan 1997). The scores from the present study were all below 3.0, indicating no evidence of multicollinearity unduly influencing the regression estimates.

DISCUSSION

The present study is one of the few studies to test the full SDT metamodel, which incorporates three facilitators (aspirations, motivations, mindfulness), three needs (autonomy, competence and relatedness), and PAS. Overall, the SDT dimensions were significantly correlated with OCBs, except for the ‘negative’ dimensions of extrinsic aspirations and controlled motivation. This study highlights the importance of testing the wide range of SDT predictors towards OCBs, and provides support for the testing of SDT beyond single dimension studies (e.g. motivation or three needs). The regression analysis showed that of the three facilitators, autonomous and controlled motivations were consistent predictors of OCBs. Employees with higher

autonomous motivations were more likely to engage in OCBs (individual and organisation), while employees with higher controlled motivations were less likely to engage in OCBs.

There was much stronger support for the three needs, with needs of autonomy and relatedness being significant predictors of both OCB dimensions, while competence was linked with OCB organisation only. From the amount of variance accounted for, we can also see that the three needs dimensions were stronger at predicting OCBs than the facilitators, albeit only slightly. However, by comparing the influence of facilitators to OCBs from Steps 2 and 3, there is evidence of mediation, with the three needs fully mediating the influence of facilitators to OCB individual, and partially mediating facilitators to OCB organisation. This aligns with the SDT theory that asserts that facilitators enhance the three needs, which, in turn, influences outcomes.

There is also strong support for the direct effects of PAS on OCBs. We argued that stronger PAS would result in employees reciprocating through higher OCBs and this was supported. Indeed, PAS directly influenced OCBs at similar levels, equal to the influence of either the facilitator or three needs dimensions towards both OCB dimensions. This finding highlights the strength of PAS towards enhancing employee OCBs and also highlights the importance of considering the context of the situation when exploring SDT dimensions in the workplace, as PAS moderated the effects on the other SDT dimensions towards OCBs. Universally, the moderating effects of PAS on the SDT dimensions showed that the highest levels of OCBs were reported by employees with high PAS. Thus PAS enhances the ability of employees to

leverage the beneficial SDT dimensions to facilitate greater involvement in OCBs. Theoretically, this provides support for testing PAS as a moderator of other SDT dimensions, as we found this influence occurred across a number of these dimensions.

Limitations

One limitation of the present study was the use of self-reported cross sectional data, so future studies might seek to gather OCB data from other sources such as supervisors. However, the methodology used saw us collect data at two different times, (1) predictors, and (2) outcomes, thus minimising concerns towards common method variance (CMV). Furthermore, the testing of interaction effects is not as susceptible to CMV (Evans 1985) further enhancing our confidence in the data. There were measurement reliability issues with the three needs dimensions of autonomy and competence, although such variation appears standard for this particular measure (e.g. Greguras and Diefendorff 2009), suggesting the issue may relate to the measure itself. Furthermore, while the study focuses upon supervisors and managers, which clearly limits generalising findings to all employees, the wide number of organisations sampled (250), the large number of supervisors and managers (n=386), and the diverse spread of education levels, ethnicity (with over 37% non-white), and industry sector mitigate this limitation. Overall, our wide sample of organisations and supervisors and managers enhances the ability to generalise these findings, at least for supervisors and managers.

Future Research and Implications

Future research might seek to explore outcomes beyond self-reported measures, such as performance, absenteeism and turnover. Future research should seek to test these effects on employees at all levels of an organisation, including low skilled employees and CEOs. Given the lack of some SDT dimensions towards OCBs (e.g. mindfulness), a wider range of job and mental health outcomes should also be tested. For example, the full metamodel of SDT may enhance work engagement and job satisfaction. Furthermore, as there is only limited SDT literature set within the workplace, and given the importance of global motivations in research to date, the testing of additional organisations (such as not-for-profit, and entrepreneurial/small business organisations) may provide differing outcomes because of different employee motivations.

The implications for Human Resource Management is multifaceted. While the complexities and difficulties of managers' roles are dichotomous and complex, for example being responsible for task and performance requirements whilst simultaneously being required to engage in support roles (McGovern, Gratton, Hope-Hailey, Stiles and Truss 1997) our findings, overall, suggest that the support and development of wellbeing is fundamental to positive organisational outcomes.

The central role of PAS, and in particular PAS's strong direct effects and strong moderating effects, highlights the importance of supporting autonomy in the workplace. Simply, those who feel that their autonomy is supported by their organisations will likely outperform those who perceived less autonomous support. Consequently, management development and training that aids in the ability of

managers to enhance PAS, is imperative to achieving high performance. Managers who provide their workers with choice, give non-controlling feedback and who understand and engage with their employees, are likely to receive greater job performance (OCBs) from employees. The perceptions of autonomy support that managers create are central to positive organisational outcomes. Therefore, using strategies outlined earlier by Deci et al. (1989) as a mechanism for enhancing OCBs, firms may look to provide manager training in autonomous support. Furthermore, using coaching strategies for management which emphasise the value of various types and outcomes of autonomy for various employee levels and how to manage that process through support and relationship building, is likely to garner greater outcomes for the organisation (see Caza 2012).

Similarly the importance of the three needs was fundamental to the study's positive findings. Thus, placing human wellbeing at the core of good business and HR practice is important. In the current recession, greater cost control measures, rather than support behaviours may be deemed the most expedient method of achieving organisational success, however, our findings encourage HR and managers to seek, identify and emphasise to employees, the positive and *personal* benefits in experiencing the three needs at work. That is, our findings suggest that enhancing employees' own wellbeing is the first step in developing the links between individual wellbeing and positive workplace outcomes. Fostering employees' positive experiences of autonomy, competence and relatedness could begin with training designed to help recognise when one is engaged in one of these three needs. Employees benefit, directly and personally, from having autonomy, from feeling

challenged in terms of their competence and engaging in meaningful relationships with co-workers (Deci and Ryan 2000). This study extended these personal benefits towards the organisational benefits derived from OCBs. Enabling the experience of the three needs at work begins with the recognition, at a personal level, of their advantage. We suggest that training and development within this area, such as programmes which include journal or diary keeping, may help highlight the three needs experiences for employees, thus reinforcing their value. Building these experiences into job design and future motivational packages may assist in highlighting their on-going importance, not only for the individual but also for enhanced organisational outcomes.

Conclusion

The present study finds that the metamodel of SDT generally influences OCBs as expected, and that PAS can have additional benefits through its own direct effects and also through enhancing the direct effects of the other SDT dimensions. In particular, the consistent moderating effects of PAS further highlight this potential benefit: managers with high PAS ratings consistently reporting higher OCBs than managers with low PAS ratings. The findings also highlighted how the three needs (autonomy, competence and relatedness) mediate the influence of the SDT facilitator dimensions (aspirations, motivations and mindfulness), which aligns well with SDT theory. This finding was particularly apparent towards OCB individual. Overall, the metamodel approach, where all five SDT dimensions were considered, shows great value in

enhanced model strength, as well as highlighting the moderating effects of PAS in the workplace, a context which has seldom been explored in the literature.

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TABLES AND FIGURES

Table 1. Descriptive Statistics and Correlations

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	37.4	13.1	--													
2. Education	2.3	1.0	.09	--												
3. Firm Size	1.6	.90	.02	.08	--											
4. Intrinsic Aspirations	4.1	.60	-.01	-.03	-.09	--										
5. Extrinsic Aspirations	2.6	.77	-.36	-.07	.01	.03	--									
6. Mindfulness	3.8	.66	.39	.00	.03	.11	-.41	--								
7. Autonomous Motivations	21.2	4.8	.19	.03	.03	.26	.01	.12	--							
8. Controlled Motivations	15.8	4.0	-.17	-.02	.02	-.09	.42	-.46	.09	--						
9. Autonomy	3.6	.58	.32	-.04	-.09	.13	-.20	.41	.30	-.40	--					
10. Competence	3.9	.64	.31	-.10	.03	.32	-.29	.48	.32	-.40	.61	--				
11. Relatedness	3.9	.60	.15	-.12	-.10	.43	-.11	.32	.24	-.31	.48	.56	--			
12. PAS	3.7	.82	.12	-.01	.01	.15	-.14	.23	.23	-.25	.38	.36	.32	--		
13. OCB Individual	3.5	.72	-.02	-.02	-.09	.27	-.01	.07	.17	-.10	.20	.24	.31	.29	--	
14. OCB Organisation	3.8	.78	.15	.02	-.07	.18	.05	.13	.34	-.08	.32	.34	.27	.39	.52	--

N=386. Values over .11 are $p < .05$, and values over .14 are $p < .01$

Table 2. Hierarchical Moderated Regression Analysis for OCBs Individual

Variables	Models with OCBs Individual				
	Step 1 Controls	Step 2 Facilitators	Step 3 Satisfaction	Step 4 Moderator	Step 5 Interactions
Age	.02	.02	-.01	.00	.00
Gender	.07	.02	.00	.01	.02
Education	-.04	-.02	.02	.02	.03
Private Sector	-.13	-.13	-.15*	-.17**	-.17*
Firm Size	-.06	-.07	-.08	-.08	-.08
Intrinsic Aspirations		.10†	.04	.04	.06
Extrinsic Aspirations		.12	.10	.10	.11†
Mindfulness		.02	-.06	-.07	-.08
Autonomous Motivations		.12*	.02	-.03	-.05
Controlled Motivations		-.12†	.02	.07	.06
Needs Satisfaction Autonomy			.18*	.15*	.21**
Needs Satisfaction Competence			.10	.06	.04
Needs Satisfaction Relatedness			.12†	.09	.05
Perceived Autonomous Support (PAS)				.29***	.30***
Intrinsic Aspirations x PAS					-.14*
Extrinsic Aspirations x PAS					.18**
Mindfulness x PAS					.10
Autonomous Motivations x PAS					.13*
Controlled Motivations x PAS					-.16*
Needs Satisfaction Autonomy x PAS					-.19*
Needs Satisfaction Competence x PAS					-.05
Needs Satisfaction Relatedness x PAS					.09
R ² Change	.03	.05*	.06**	.07***	.05†
Total R ²	.03	.08	.13	.20	.25
Total Adjusted R ²	.01	.04	.09	.15	.18
Total F Statistic	1.559	2.003*	2.737**	4.111***	3.335***

† p < .1, * p < .05, ** p < .01, *** p < .001. Standardized regression coefficients. All significance tests were single-tailed.

Table 3. Hierarchical Moderated Regression Analysis for OCB Organisation

Variables	Models with OCBs Organisation				
	Step 1 Controls	Step 2 Facilitators	Step 3 Satisfaction	Step 4 Moderator	Step 5 Interactions
Age	.11	.07	.02	.04	.03
Gender	-.11	-.15*	-.17**	-.15*	-.16**
Education	-.01	.01	.06	.06	.05
Private Sector	-.06	-.05	-.07	-.10	-.07
Firm Size	-.02	-.04	-.04	-.05	-.06
Intrinsic Aspirations		.04	-.06	-.06	-.06
Extrinsic Aspirations		.09	.07	.07	.05
Mindfulness		-.02	-.11	-.12	-.14
Autonomous Motivations		.30***	.16**	.10†	.12*
Controlled Motivations		-.16*	.03	.10	.04
Needs Satisfaction Autonomy			.24**	.21**	.22**
Needs Satisfaction Competence			.13†	.07	.04
Needs Satisfaction Relatedness			.19**	.14*	.14*
Perceived Autonomous Support (PAS)				.37***	.36***
Intrinsic Aspirations x PAS					-.07
Extrinsic Aspirations x PAS					.02
Mindfulness x PAS					.06
Autonomous Motivations x PAS					-.09
Controlled Motivations x PAS					.06
Needs Satisfaction Autonomy x PAS					.08
Needs Satisfaction Competence x PAS					-.04
Needs Satisfaction Relatedness x PAS					.15*
R ² Change	.03	.11***	.11***	.11***	.03
Total R ²	.03	.13	.24	.35	.37
Total Adjusted R ²	.01	.10	.20	.31	.31
Total F Statistic	1.349	3.665***	5.776***	8.900***	6.088***

† p< .1, * p< .05, ** p< .01, *** p< .001. Standardized regression coefficients. All significance tests were single-tailed.

Figure 1. Interaction between Intrinsic Aspirations and PAS to OCB Individual

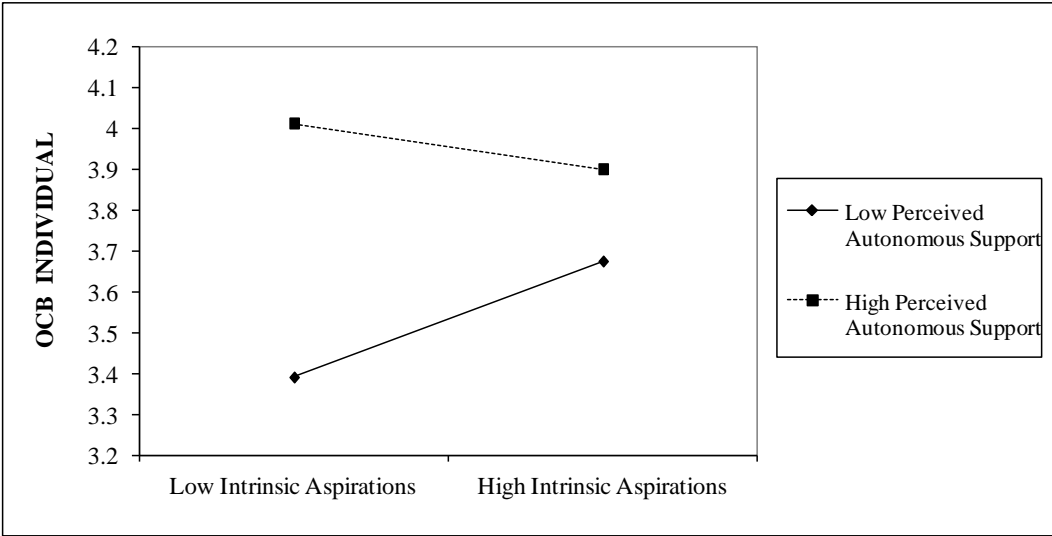


Figure 2. Interaction between Extrinsic Aspirations and PAS to OCB Individual

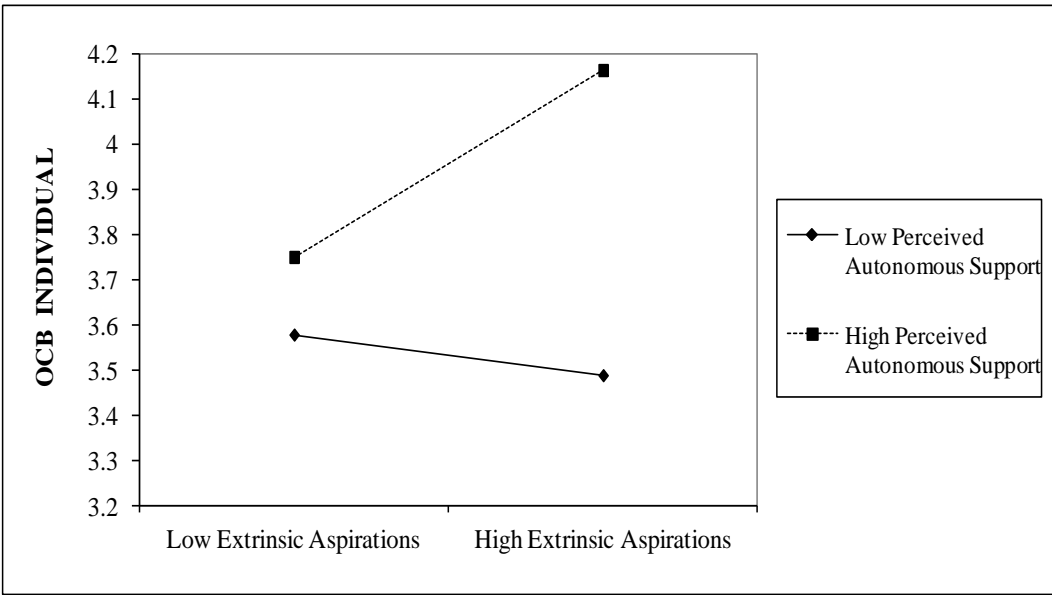


Figure 3. Interaction between Autonomous Motivation and PAS to OCB Individual

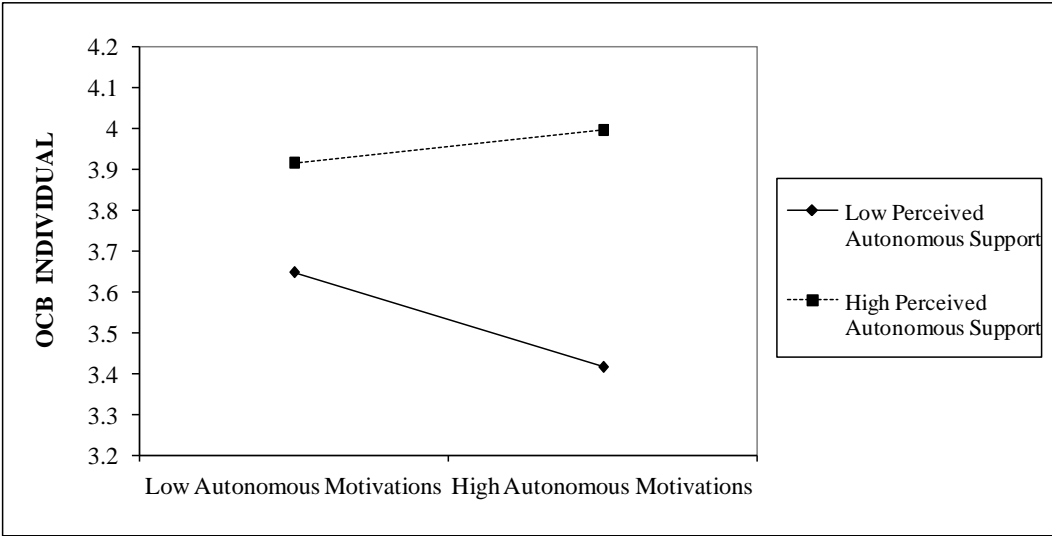


Figure 4. Interaction between Controlled Motivation and PAS to OCB Individual

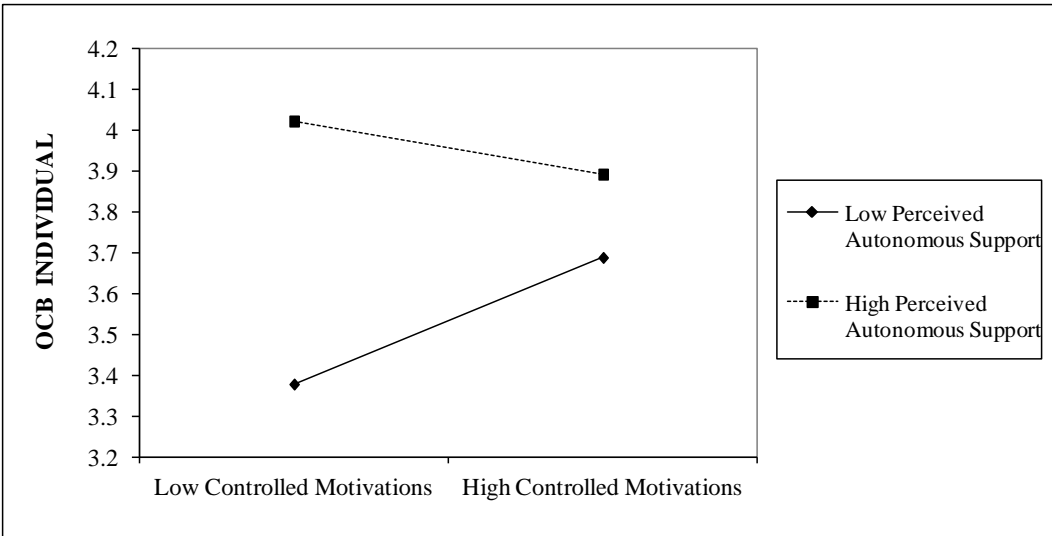


Figure 5. Interaction between Autonomy Satisfaction and PAS to OCB Individual

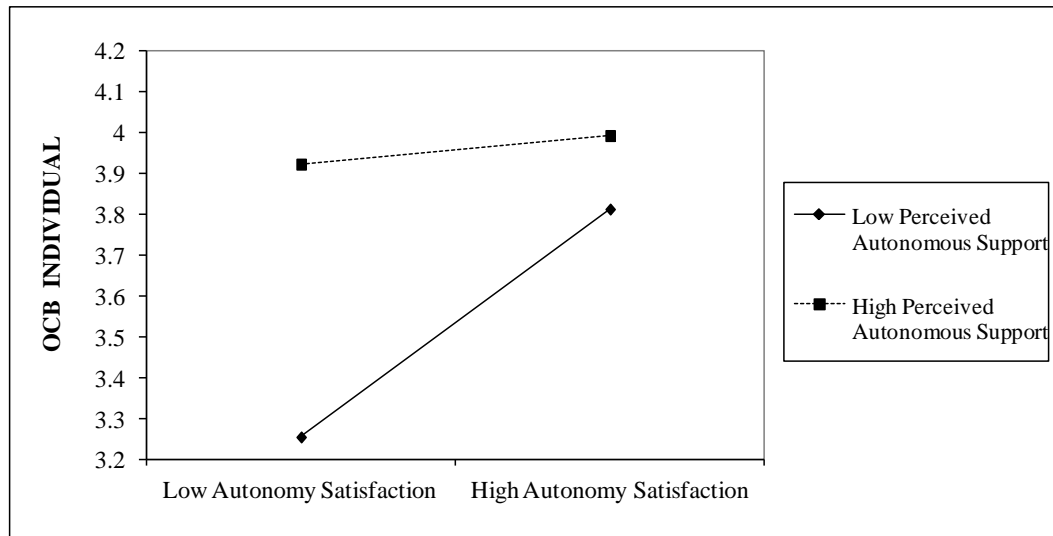
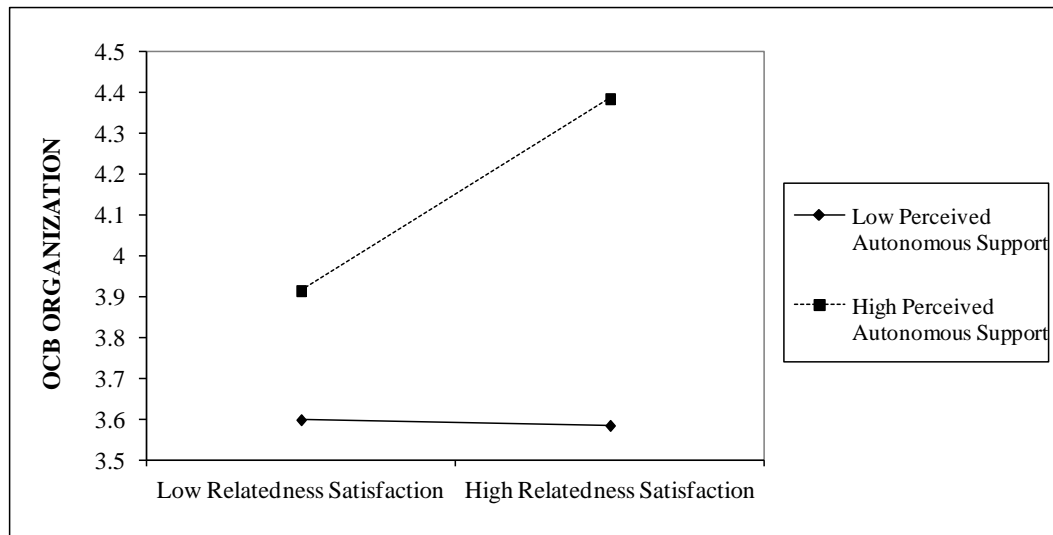


Figure 6. Interaction between Relatedness Satisfaction and PAS to OCB Organisation



CHAPTER 10

CONCLUSION, LIMITATIONS, AND FUTURE STUDIES

General conclusion

Leaders' wellbeing matters. Leaders work in increasingly complex, stressful, and challenging environments that deplete their inner resources (Youssef & Luthans, 2012; Little, Simmons, & Nelson, 2007). Building personal reserves that assist leaders to cope, or even thrive, in turbulent times is, therefore, paramount. The opening paragraphs of this thesis stated the primary aim of this study was to demonstrate that wellbeing is a resource that can aid leaders' welfare in difficult times. The research articles that followed have demonstrated that wellbeing is a resource on which leaders can draw for continued positive experiences at work and in life. Ultimately, SDT (a eudaimonic theory) was positively related to (1) hedonic wellbeing, (2) negatively related to detrimental mental health outcomes (for example, anxiety), and (3) positively related to a range of positive work-related outcomes for leaders. These findings were established over several leadership levels, and were also found to influence team level and employee (follower) wellbeing.

In this conclusion, the sections that follow address the specific research questions outlined in chapter one and provide an in depth answer to each research question. This chapter concludes with the limitations of this study, as well as highlighting future research areas to be investigated.

Specific thesis conclusions

Each of the separate research articles contained within this thesis (chapters three to nine) has provided an indepth discussion, conclusion and limitation section on the relevant dimension and metamodels, contribution to the wellbeing of leaders.

To reiterate, the specific questions this thesis sought to address, were:

- 1. Does SDT aid our understanding of leaders' wellbeing within the workplace?*
- 2. What role do the various dimensions of SDT play in facilitating leaders' welfare?*
- 3. While it has been theoretically argued that SDT forms a 'metamodel' of wellbeing, can this be empirically supported?*
- 4. Can SDT add to the mounting empirical support for Positive Organisational Behaviour (POB), which focuses on enhancing the positive elements of organisational functioning (Luthans & Avolio, 2009)?*

However, in addressing these questions this chapter takes, generally, an overall SDT perspective, rather than revisiting each of the seven study's findings, limitations and conclusions, which are already outlined in each relevant chapter. Therefore, the following sections address each of the research questions separately, but takes a global or overview response to each question. In particular the responses to each question are tied to the underlying philosophies of SDT outlined in chapter one. These three philosophies - positive orientation, organismic, and dialectical premises - provide a guide to understanding the findings contained within this thesis.

Does SDT aid our understanding of leaders' wellbeing within the workplace?

SDT has developed an initial, yet growing, research base within organisations (Gagne & Deci, 2005), yet research on the role of SDT in relation to leaders' wellbeing remained limited (Ilies, Morgeson, & Nahrgang, 2005). This has led to calls being made in organisation and leadership studies to assess the role of SDT (Ilies et al., 2005; Spreitzer, 2006).

This thesis responded firstly by investigating and unraveling the multitude of complexities surrounding SDT, in order to facilitate the bringing of the full theory into the study of leadership. Secondly, empirical studies and tests were designed in order to fully test the influence of SDT on leaders' wellbeing. Finally through analysis and resultant publications, positive and conclusive empirical evidence of the beneficial influence of SDT towards leaders' wellbeing was found. This thesis confirmed that SDT, overall, aided in the understanding of leaders' wellbeing with a number of positive benefits for the leader and their employees. I, in general, found SDT aided understanding of wellbeing in the workplace for leaders, consistent with the positive orientation of SDT.

What role do the various dimensions of SDT play in facilitating leaders' welfare?

While in general SDT played a positive role in leaders' wellbeing, this thesis also undertook research in order to ascertain how each of the separate dimensions aided leaders' welfare. Each of the dimensions roles in facilitating wellbeing is discussed here.

Aspirations and motivations dimensions

Importantly for the study of wellbeing both the aspirations and motivations dimensions of SDT are comprised of subdimensions. These subdimensions contain both beneficial *and* detrimental categories. Thus these two studies (chapter three and four) in particular provide evidence that the positive subdimensions for aspirations and motivations did indeed facilitate leaders' welfare, particularly when compared to the effects of the detrimental subdimensions. Unlike other theories of wellbeing that are uni-dimensional (that is, high or low aspirations or motivations), both the aspirations and motivations studies were able to compare the positive subdimensions, which facilitate wellbeing, to the negative subdimensions that relate negatively to outcomes for the leader. So both aspirations and motivation studies provide evidence of the role of enhanced SDT towards leaders' welfare, by being able to compare the beneficial versus detrimental outcomes of each of these subdimensions towards the wellbeing of leaders.

Overall, both the aspirations and motivations dimensions of SDT support the finding that these individual dimensions play an important role in facilitating leaders' welfare. This is particularly so, when viewed from a positive orientation.

Mindfulness

One of the few studies to test empirically Eastern mindfulness in the workplace is contained within this thesis. It found mindfulness to be significant and consistent in buffering ill-being in leaders. This was confirmed over four different leadership samples. As such the role of mindfulness in facilitating leaders' welfare was established. The overall and unique benefits of mindfulness were established over

and above the more established concept of PsyCap. This provides additional support for mindfulness to be utilised as an individual dimension in developing resources that aid the welfare of leaders.

PAS

While the above three dimensions of aspirations, motivation and mindfulness represent the organismic drive towards wellbeing, PAS represent the dialectical principle of SDT. Whether wellbeing is realised and internalised (or not) by the individual can depend on the environment, in this case the workplace, and how the environment supports the internalisation of wellbeing.

PAS is, therefore, a central and crucial component of SDT. Thus, in three studies, PAS was used to confirm its role in facilitating wellbeing. That is, in chapters six, seven, and nine the role of PAS was found to be central in understanding wellbeing.

Three Needs

The importance of the three needs has been established in previous literature (see Ryan, Huta & Deci, 2008). These needs are fundamental to SDT, in that the experiencing of the three needs is vital for wellbeing and flourishing. Two chapters found the three needs central to wellbeing. Notably in chapter seven, leaders who reported experiencing high levels of three needs, were also rated by their followers as being higher in PAS. This ultimately influenced employees' three needs and their subjective wellbeing. Indeed, for the first time the study in chapter seven undertook analysis of the central and contagious role of leaders' three needs towards employee wellbeing. Thus, this study established that not

only are three needs central to wellbeing for leaders, but that they are contagious towards employee outcomes (via PAS), previously unknown.

Overall, the positive findings from each of the separate dimensions support the importance of each dimension's role in enhancing the welfare of leaders. That is, each dimension added to leaders' wellbeing via the positive orientation of SDT. Further, chapters three, four, five, seven, eight and nine highlight the organismic principle of wellbeing in that wellbeing can be viewed as a naturally occurring orientation for individuals. Simultaneously, some studies (chapter six, seven and nine) highlight the importance of understanding the dialectical nature of wellbeing within the workplace, via PAS. Overall, this thesis found that each of the dimensions of SDT aided in understanding leaders' welfare, consistent with SDT's underlying philosophies. As such, this supports the positive finding for research question two.

While it has been theoretically argued that SDT forms a 'metamodel' of wellbeing, can this be empirically supported?

As outlined in chapter one, generally each dimension of SDT is researched separately. This has meant researchers specialise in one area of SDT, not the entire metamodel of SDT (Ryan, Huta, & Deci, 2008). Thus, while theoretically calls had been made regarding the importance of the metamodel (Deci & Vansteenkiste, 2004), little empirical research surrounds the metamodel. This was a central issue for this thesis. Consequently, the findings from the metamodel study, which provides empirical evidence of the metamodel's beneficial role, is the first, not only for leadership studies, but SDT more generally. Thus, this thesis offers a unique contribution to the literature by providing empirical support for the metamodel and its influence towards positive outcomes, particularly in relation to

extra role performance (OCBs) of New Zealand leaders. To this end, this thesis empirically confirmed that SDT forms a metamodel of wellbeing.

Can SDT add to the mounting empirical support for Positive Organisational Behaviour?

The positive empirical findings from all studies undertaken within this thesis do provide support for SDT to be considered a theory from which POB can further draw upon in future wellbeing studies (Spreitzer, 2006; Sheldon & Ryan, 2010). In chapter one I outlined the central and crucial area of POB, in that POB has a focus on developing models of wellbeing that fit the workplace context, rather than the more general orientation that PP has in enhancing only individual wellbeing. Therefore, while other models of eudaimonic wellbeing focus only at the individual level (for example, Psychological Wellbeing, see Ryff, & Singer, 1996) they are appropriate to PP, but they do not specifically include the workplace orientation required by POB. However SDT, though its dialectical orientation towards wellbeing (the interaction between the individual and the environment), has a central focus on the context in supporting, or otherwise, the individual's wellbeing. The workplace is a context that SDT considers fundamental to wellbeing enhancement, as outlined in the chapters related to PAS. As such, these two theories (POB and SDT) share a fundamental, theoretical commonality; that is, the context within which we work is fundamental to thriving. This theoretical commonality was confirmed empirically within this thesis.

So, SDT as advancing both the individual and organismic drive towards wellbeing (chapters three to nine) and the positive findings on the central role of PAS (chapters six, seven and nine) in enhancing positive outcomes (dialectical

principle), means this thesis provides empirical support for SDT to be utilized as a metamodel for wellbeing at *work*. As such, SDT's specific inclusion of the environment (workplace), as well as individual orientations, which were supported by the findings within this thesis, offers empirical support for SDT to be further employed as a metamodel upon which POB can draw further. Furthermore, the following two sections illustrate the importance of this thesis' findings in extending the understanding of wellbeing. That is, the following sections add weight to further utilizing SDT as a model from which POB can advance.

Eudaimonic wellbeing at work

As relatively little is known about SDT and the wellbeing of leaders, this thesis overcame current limitations in research, primarily, by demonstrating the beneficial role of SDT as a eudaimonic wellbeing resource (Delle Fave & Bassi, 2009) for leaders. Eudaimonic wellbeing has recently become the topic of inquiry in PP, yet POB is slower in taking up the role of eudaimonic wellbeing at work. Generally, this is because the hedonic wellbeing outcomes, such as feeling positive and happy, have had greater emphasis in workplace research, as they are better known and established for researchers (Keyes & Annas, 2009; Page & Vella-Brodrick, 2009). However, an overreliance on these outcomes narrows the role, importance and function of wellbeing as an on-going experience and resource that may well also involve, paradoxically, struggle and difficulties at times. Using motivations as an example, being motivated by one's own values and beliefs at work is eudaimonic functioning. However, following one's beliefs and values as a leader may well result in struggle to be true to these values (at least at

times). However, it is engagement in that value that is the most important for eudaimonic wellbeing, not the positive or negative feelings that this may bring at times (Ryan & Huta, 2009). Thus, this thesis, by researching and demonstrating the advantages of SDT, as a eudaimonic theory of wellbeing at work, also offered a different way in which POB research can understand and operationalise ‘wellbeing’ (Ilies et al., 2005; Page & Vella-Brodrick, 2009), consistent with SDT philosophies.

A holistic understanding of wellbeing at work

Overall, this thesis undertook a holistic approach to wellbeing and demonstrated the positive outcomes of SDT towards a range of hedonic, mental health and work-related wellbeing outcomes for leaders across various levels of New Zealand organisations. The consistency in positive outcomes, contained within the seven research articles, attests to the important role that SDT plays in facilitating *additional* wellbeing outcomes. Therefore, an additional outcome of this thesis was that by broadening the scope and understanding of wellbeing to not only include developing an understanding of SDT and eudaimonic wellbeing, but using SDT as a predictor of a range of wellbeing outcomes (hedonic, mental health, and work) advances in the field of PP and POB were made more generally (Huta, Pelletier, Baxter, & Thompson, in press; Ryan & Huta, 2009). That is, as recent calls have been made within PP to widen the understanding of wellbeing (Huta et al., in press; Ryan & Huta, 2009) this thesis advanced the study of wellbeing at work by investigating wellbeing holistically. Essentially, SDT (eudaimonic wellbeing) was found to be a predictor of other wellbeing outcomes and this holistic approach to the investigation of wellbeing was previously unexplored

(Ryan & Huta, 2009), particularly in relation to leadership studies (Ilies et al., 2005).

Therefore, this thesis contends that it has widened the depth and understanding of wellbeing for leaders, firstly by uncovering and exploring a theory of eudaimonic wellbeing (SDT) that is firmly established in psychology but less so in POB. Furthermore, by extending the role of eudaimonic wellbeing as an antecedent of other positive outcomes in the workplace, this thesis pioneered wellbeing research holistically. These two points, supported by the positive, empirical findings contained within each of the chapters (three to nine) add weight to engaging SDT as a major contributor to the development of POB.

Limitations

Overall, while the studies here provide strong support for a relationship between SDT dimensions and the metamodel towards positive outcomes, there are limitations. Firstly, issues around cross-sectional self-reported data raises issues of common method variance (see Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, I sought to minimise this by collecting data from multiple data sets (CEOs, Senior Leaders, Junior Leaders, Employees, and Entrepreneurs), in order to gain greater generalisation. Further the collection of predictors and outcomes was at separate times (from two weeks to one month) for every study, which further provides confidence in the data, because separation of predictor and outcomes by time means answers to survey one are not likely to influence survey two responses. Finally, the use of SEM in the SDT aspirations and SDT motivations papers further minimises the potential influence of common method variance (Kenny, 2008). In addition, the wide range of organisations and the broad ethnic backgrounds of participants does encourage generalisation of these findings, at least in a leadership context. The use of

supervisor-rated performance, HRM department data on attendance etc., in addition to partner data on leaders' wellbeing (for example, marital satisfaction), might all enhance future exploration of the wellbeing theme started here.

Overall, the cultural setting of New Zealand is new to SDT studies and highlights the likelihood that these SDT dimensions may translate similarly to other western cultures. However, the studies within this thesis do need replicating in cultures other than the dominant westerns cultures, as there are likely to be differences in how wellbeing is experienced. For example do Indian, Chinese, and Arab leaders experience similar outcomes to those found here? What about the influence of SDT on indigenous employees like the Maori of New Zealand?

Similarly, in advancing SDT as a model for POB more generally, the present studies drew mostly on a sample of leaders, and while this sample is large and from a wide range of organisations and industries, it is still focused on a professional job-type. Clearly, further exploration of SDT amongst other job types (that is, blue collar workers, creative industries and knowledge workers) is desirable in advancing SDT more generally within the workplace.

Future research

Future research is also needed on the antecedents and consequences of SDT in positive leadership research. A greater understanding of SDT's relationship with ethics, virtuous organisations, authentic leadership and other forms of positive leadership would greatly enhance the importance of the findings within this thesis for leadership more generally. For example, future research could examine if those leaders with higher SDT are more authentic in nature. This is implied in

some SDT research (Ryan et al., 2008) and in the leadership literature (Ilies et al., 2005) but not tested.

As the nature of this research was quantitative and reliant on self-report data, future studies could benefit from other-rated data. Research may investigate whether the spread of leaders' wellbeing, rated by customer, partners, children, and/or greater employee rated research, uncovers greater benefits (or otherwise) for the organisation. In addition, qualitative data that teases out some of the findings here would be highly beneficial, for example, how, and why, does the contagion process of leaders' three needs to follower rated PAS occur?

Longitudinal research could be undertaken to establish whether there are changes in leaders' SDT over the course of their leadership careers. The present studies provide a snapshot of wellbeing, whereas longitudinal studies may well uncover changes in wellbeing over time and in relation to leadership careers. For example, does promotion heighten eudaimonic wellbeing, or detract from it? Do missed career opportunities and lack of promotions change leaders' aspirations, motivations and experiences in the long run, or do they stay the same?

Furthermore, it is likely that differences in wellbeing are likely to be experienced on a number of other levels such as (1) within tasks, (2) preferred tasks, and (3) daily variations and these all seem fruitful areas for greater research. Future research may use daily diary studies to produce insight into SDT from a daily basis over several days with a focus on if, and how, wellbeing may change over times and days for leaders.

Alternatively, as research has recognised the importance of the employees' whole life in understanding wellbeing (Haar & Roche, 2010), this could be extended into leadership research. Experience sampling offers the ability to gauge

how SDT is experienced at arbitrary times, perhaps even when not at work (for example, evenings), or on the weekend. For example, experience sampling may allow greater insight into whether the positive benefits of SDT in the workplace correlates with weekend wellbeing, physical activity, leisure activities and family life for leaders. Again this offers fruitful possibilities for future research.

While the above focuses on the actual studies and potential future studies, there are some limitations and other possibilities that SDT may offer more generally. This is addressed next.

SDT is an ever growing model of wellbeing

SDT is considered to be an ever evolving model of wellbeing. This has both positive and negative implications for the future for SDT. On the positive side, as long as new dimensions fit the underlying principles (outlined in chapter one), new dimensions will and can be added to SDT. Recently the notions of vitality, energy, and passion have gained the interest of SDT researchers (Ryan & Deci, 2008). Furthermore, Spreitzer (2006), while advocating for SDTs advancement, also adds ‘meaning’ as a dimension to her research. Thus, while it is a metamodel of wellbeing, it continues to grow, with many more dimensions that could be, and are being, added. As the metamodel is viewed as ‘still emerging’ after 40 years, it has the ability to add dimensions and research into new areas, as long as these fit the underlying philosophies, and therefore it is positioned to continue to garner a greater understanding of wellbeing.

The problem however, is that SDT is a very complex theory, without a unified research base, other than that presented within this thesis. Therefore, as dimensions are added, this adds to the complexity of SDT. This may fragment

research in SDT further, and additionally undermine the ability of the metamodel to be tested. So, as SDT is already hugely complex and as dimensions are potentially added, SDT researchers are advised to encourage a unified research agenda.

However, in general and as already outlined above, the metamodel is superior to other models of eudaimonic wellbeing at work, as it caters for both the environment (dialectical) and individual innate drives towards wellbeing (organismic). Furthermore, being able to add new dimensions through a unified philosophy is exciting for the growth of SDT. It is therefore likely this growing metamodel will support future studies in PP and POB well into the future. However, caution in terms of over complexity is advised.

Overall conclusion

While the call for positive leaders and positive leadership grows, little until now has been known about the personal wellbeing resources that leaders can call on in order to cope with the complexity and difficulty in today's organisations. Overall, this thesis argued, and found, that SDT is fundamental to leaders' wellbeing, acting as a wellbeing resource and aiding additional positive outcomes for leaders and their followers.

SDT posits that eudaimonic wellbeing stems from both the environment and an individual's drive, and this was tested over various levels of leadership, and found, uniformly, to aid additional positive outcomes for leaders. Thus, this thesis found that SDT *is* a central and crucial resource for leaders, and that of their followers, within New Zealand. Accordingly, future wellbeing research, and SDT in particular, should be viewed as central, not as peripheral, in leadership studies.

Furthermore, given the holistic approach to wellbeing that this thesis undertook, with the resultant positive findings, wellbeing should no longer be viewed, nor defined, narrowly (Huta & Ryan, 2010).

Finally, to summarise: SDT contributes to leaders' wellbeing as demonstrated by the consistent, positive findings of this thesis.

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APPENDICES

Appendix 1: Survey One. Samples 1, 2 and 5

Please circle the number that best represents your opinion relating to the following goals or aspirations that you hope to accomplish over the course of your life.

	Very				
	Moderately				
	Not at all				
	1	2	3	4	5
To be a very wealthy person	1	2	3	4	5
To have many expensive possessions	1	2	3	4	5
To be financially successful	1	2	3	4	5
To be rich	1	2	3	4	5
To have enough money to buy everything I want	1	2	3	4	5
To have my name known by many people	1	2	3	4	5
To be admired by many people	1	2	3	4	5
To be famous	1	2	3	4	5
To have my name appear frequently in the media	1	2	3	4	5
To be admired by lots of different people	1	2	3	4	5
To successfully hide the signs of aging	1	2	3	4	5
To have people comment often about how attractive I look	1	2	3	4	5
To keep up with fashions in hair and clothing	1	2	3	4	5
To achieve the "look" I've been after	1	2	3	4	5
To have an image that others find appealing	1	2	3	4	5
To grow and learn new things	1	2	3	4	5
At the end of my life, to be able to look back on my life as meaningful and complete	1	2	3	4	5
To choose what I do, instead of being pushed along by life	1	2	3	4	5
To know and accept who I really am	1	2	3	4	5
To gain increasing insight into why I do the things I do	1	2	3	4	5
To have good friends that I can count on	1	2	3	4	5
To share my life with someone I love	1	2	3	4	5
To have committed, intimate relationships	1	2	3	4	5
To feel that there are people who really love me, and whom I love	1	2	3	4	5
To have deep enduring relationships	1	2	3	4	5
To work for the betterment of society	1	2	3	4	5
To assist people who need it, asking nothing in return	1	2	3	4	5
To work to make the world a better place	1	2	3	4	5
To help others improve their lives	1	2	3	4	5
To help people in need	1	2	3	4	5
To be physically healthy	1	2	3	4	5
To feel good about my level of physical fitness	1	2	3	4	5
To keep myself healthy and well	1	2	3	4	5
To be relatively free from sickness	1	2	3	4	5
To have a physically healthy life style	1	2	3	4	5

Please read each of the following items, thinking about how it relates to your job, and then indicate how true it is for you.

	Very true				
	Somewhat true				
	Not at all true				
	1	2	3	4	5
I feel like I can make a lot of inputs to	1	2	3	4	5

deciding how my job gets done					
I really like the people I work with	1	2	3	4	5
I do not feel very competent when I am at work	1	2	3	4	5
People at work tell me I am good at what I do	1	2	3	4	5
I feel pressured at work	1	2	3	4	5
I get along with people at work	1	2	3	4	5
I pretty much keep to myself when I am at work	1	2	3	4	5
I am free to express my ideas and opinions on the job	1	2	3	4	5
I consider the people I work with to be my friends	1	2	3	4	5
I have been able to learn interesting new skills on my job	1	2	3	4	5
When I am at work, I have to do what I am told	1	2	3	4	5
Most days I feel a sense of accomplishment from working	1	2	3	4	5
My feelings are taken into consideration at work	1	2	3	4	5
On my job I do not get much of a chance to show how capable I am	1	2	3	4	5
People at work care about me	1	2	3	4	5
There are not many people at work that I am close to	1	2	3	4	5
I feel like I can pretty much be myself at work	1	2	3	4	5
The people I work with do not seem to like me much	1	2	3	4	5
When I am working I often do not feel very capable	1	2	3	4	5
There is not much opportunity for me to decide for myself how to go about my work	1	2	3	4	5
People at work are pretty friendly towards me	1	2	3	4	5

Please indicate to what extent each of the following items corresponds to the reasons why you are presently involved in your work.

	Corresponds exactly				
	Corresponds moderately				
	Does not correspond at all				
	1	2	3	4	5
Because I derive much pleasure from learning new things	1	2	3	4	5
For the satisfaction I experience from taking on interesting challenges	1	2	3	4	5
For the satisfaction I experience when I am successful at doing difficult tasks	1	2	3	4	5
Because it has become a fundamental part of who I am	1	2	3	4	5
Because it is part of the way in which I have chosen to live my life	1	2	3	4	5
Because this job is a part of my life	1	2	3	4	5
Because this is the type of work I chose to do to attain a certain lifestyle	1	2	3	4	5
Because I chose this type of work to attain my career goals	1	2	3	4	5
Because it is the type of work I have chosen to attain certain important objectives	1	2	3	4	5

Because I want to succeed at this job, if not I would be very ashamed of myself	1	2	3	4	5
Because I want to be very good at this work, otherwise I would be very disappointed	1	2	3	4	5
Because I want to be a "winner" in life	1	2	3	4	5
For the income it provides me	1	2	3	4	5
Because it allows me to earn money	1	2	3	4	5
Because this type of work provides me with security	1	2	3	4	5
I ask myself this question, I don't seem to be able to manage the important tasks related to this work	1	2	3	4	5
I don't know why, we are provided with unrealistic working conditions	1	2	3	4	5
I don't know, too much is expected of us	1	2	3	4	5

Below is a collection of statements about your everyday experience. Please indicate how frequently or infrequently you currently have of each experience. Please answer according to what really reflects your experience rather than what you think your experience should be.

All of the Time					
Most of the Time					
Much of the Time					
Some of the Time					
Never					
I could be experiencing some emotion and not be conscious of it until sometime later	1	2	3	4	5
I find it difficult to stay focused on what's happening in the present	1	2	3	4	5
I tend not to notice feelings of physical tension or discomfort until they really grab my attention	1	2	3	4	5
It seems I am "running on automatic" without much awareness of what I'm doing	1	2	3	4	5
I rush through activities without being really attentive to them	1	2	3	4	5
I do jobs or tasks automatically, without being aware of what I'm doing	1	2	3	4	5
I find myself listening to someone with one ear, doing something else at the same time.	1	2	3	4	5
I find myself preoccupied with the future or the past	1	2	3	4	5
I find myself doing things without paying attention	1	2	3	4	5

Indicate the extent to which you agree or disagree with the following statement about yourself.

Strongly Agree					
Agree					
Neither Disagree or Agree					
Disagree					
Strongly Disagree					
I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people	1	2	3	4	5
In general, I feel I am in charge of the situation in which I live	1	2	3	4	5
I am not interested in activities that will expand my horizons	1	2	3	4	5
Most people see me as loving and affectionate	1	2	3	4	5
I live life one day at a time and don't really think about the future	1	2	3	4	5
When I look at the story of my life, I am	1	2	3	4	5

pleased with how things have turned out					
My decisions are not usually influenced by what everyone else is doing	1	2	3	4	5
The demands of everyday life often get me down	1	2	3	4	5
I don't want to try new ways of doing things--my life is fine the way it is	1	2	3	4	5
Maintaining close relationships has been difficult and frustrating for me	1	2	3	4	5
I tend to focus on the present, because the future nearly always brings me problems	1	2	3	4	5
In general, I feel confident and positive about myself	1	2	3	4	5
I tend to worry about what other people think of me	1	2	3	4	5
I do not fit very well with the people and the community around me	1	2	3	4	5
I think it is important to have new experiences that challenge how you think about yourself and the world	1	2	3	4	5
I often feel lonely because I have few close friends with whom to share my concerns	1	2	3	4	5
My daily activities often seem trivial and unimportant to me	1	2	3	4	5
I feel like many of the people I know have gotten more out of life than I have	1	2	3	4	5
Being happy with myself is more important to me than having others approve of me	1	2	3	4	5
I am quite good at managing the many responsibilities of my daily life	1	2	3	4	5
When I think about it, I haven't really improved much as a person over the years	1	2	3	4	5
I enjoy personal and mutual conversations with family members or friends	1	2	3	4	5
I don't have a good sense of what it is I'm trying to accomplish in life	1	2	3	4	5
I like most aspects of my personality	1	2	3	4	5
I tend to be influenced by people with strong opinions	1	2	3	4	5
I often feel overwhelmed by my responsibilities	1	2	3	4	5
I have the sense that I have developed a lot as a person over time	1	2	3	4	5
I don't have many people who want to listen when I need to talk	1	2	3	4	5
I used to set goals for myself, but that now seems like a waste of time	1	2	3	4	5
I made some mistakes in the past, but I feel that all in all everything has worked out for the best	1	2	3	4	5
I have confidence in my opinions, even if they are contrary to the general consensus	1	2	3	4	5
I generally do a good job of taking care of my personal finances and affairs	1	2	3	4	5
I do not enjoy being in new situations that require me to change my old familiar ways of doing things	1	2	3	4	5

I do not enjoy being in new situations that require me to change my old familiar ways of doing things	1	2	3	4	5
It seems to me that most other people have more friends than I do	1	2	3	4	5
I enjoy making plans for the future and working to make them a reality	1	2	3	4	5
In many ways, I feel disappointed about my achievements in life	1	2	3	4	5
It's difficult for me to voice my own opinions on controversial matters	1	2	3	4	5
I am good at juggling my time so that I can fit everything in that needs to get done	1	2	3	4	5
For me, life has been a continuous process of learning, changing, and growth	1	2	3	4	5
People would describe me as a giving person, willing to share my time with others	1	2	3	4	5
I am an active person in carrying out the plans I set for myself	1	2	3	4	5
My attitude about myself is probably not as positive as most people feel about themselves	1	2	3	4	5
I often change my mind about decisions if my friends or family disagree	1	2	3	4	5
I have difficulty arranging my life in a way that is satisfying to me	1	2	3	4	5
I gave up trying to make big improvements or changes in my life a long time ago	1	2	3	4	5
I have not experienced many warm and trusting relationships with others	1	2	3	4	5
Some people wander aimlessly through life, but I am not one of them	1	2	3	4	5
The past had its ups and downs, but in general, I wouldn't want to change it	1	2	3	4	5
I judge myself by what I think is important, not by the values of what others think is important	1	2	3	4	5
I have been able to build a home and a lifestyle for myself that is much to my liking	1	2	3	4	5
There is truth to the saying you can't teach an old dog new tricks	1	2	3	4	5
I know that I can trust my friends, and they know they can trust me	1	2	3	4	5
I sometimes feel as if I've done all there is to do in life	1	2	3	4	5
When I compare myself to friends and acquaintances, it makes me feel good about who I am	1	2	3	4	5

Think about the messages you receive from the attitudes and behaviours of your managers/supervisors. Indicate the extent to which you agree/disagree with the following:

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
I am taken seriously	1	2	3	4	5
I am important	1	2	3	4	5
I count	1	2	3	4	5
I am trusted	1	2	3	4	5
There is faith in me	1	2	3	4	5
I can make a difference	1	2	3	4	5

I am valuable	1	2	3	4	5
I am helpful	1	2	3	4	5
I am efficient	1	2	3	4	5
I am cooperative	1	2	3	4	5

Respond to the following questions about how you feel "right now"

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
I feel confident analyzing a long-term problem to find a solution	1	2	3	4	5
I feel confident in representing my work area in meetings with management	1	2	3	4	5
I feel confident contributing to discussions about the company's strategy	1	2	3	4	5
I feel confident helping to set targets/ goals in my work area	1	2	3	4	5
I feel confident contacting people outside the company (e.g. suppliers, customers) to discuss problems	1	2	3	4	5
I feel confident presenting information to a group of colleagues	1	2	3	4	5
If I should find myself in a jam at work, I could think of many ways to get out of it	1	2	3	4	5
At the present time, I am energetically pursuing my work goals	1	2	3	4	5
There are lots of ways around any problem	1	2	3	4	5
Right now I see myself as being pretty successful at work	1	2	3	4	5
I can think of many ways to reach my current work goals	1	2	3	4	5
At this time, I am meeting the work goals that I have set for myself	1	2	3	4	5
When I have a setback at work, I have trouble recovering from it, moving on	1	2	3	4	5
I usually manage difficulties one way or another at work	1	2	3	4	5
I can be "on my own", so to speak, at work if I have to be	1	2	3	4	5
I usually take stressful things at work in stride	1	2	3	4	5
I can get through difficult times at work because I've experienced difficulty before	1	2	3	4	5
I feel I can handle many things at a time at this job	1	2	3	4	5
When things are uncertain for me at work, I usually expect the best	1	2	3	4	5
If something can go wrong for me work-wise, it will	1	2	3	4	5
I always look on the bright side of things regarding my job	1	2	3	4	5
I'm optimistic about what will happen to me in the future as it pertains to work	1	2	3	4	5
In this job, things never work out the way I want them to	1	2	3	4	5
I approach this job as if "every cloud has a silver lining"	1	2	3	4	5

The following sections relate to your work and family roles [if you have no children, family might still include partner, parents, siblings, friends, flatmates etc.].

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
When I get home from work I am often too frazzled to participate in family responsibilities	1	2	3	4	5
I am often so emotionally drained when I get home from work that it prevents me from contributing to my family	1	2	3	4	5
Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy	1	2	3	4	5
Due to stress at home, I am often preoccupied with family matters at work	1	2	3	4	5
Because I am often stressed from family responsibilities, I have a hard time concentrating on my work	1	2	3	4	5
Tension and anxiety from my family life often weakens my ability to do my job	1	2	3	4	5
I am satisfied with my work-life balance, enjoying both roles	1	2	3	4	5
Nowadays, I seem to enjoy every part of my life equally well	1	2	3	4	5
I manage to balance the demands of my work and personal/family life well	1	2	3	4	5
My involvement in my work...					
Helps me to gain knowledge and this helps me be a better family member	1	2	3	4	5
Puts me in a good mood and this helps me be a better family member	1	2	3	4	5
Makes me feel happy and this helps me be a better family member	1	2	3	4	5
Makes me cheerful and this helps me be a better family member	1	2	3	4	5
My involvement in my family...					
Helps me to gain knowledge and this helps me be a better worker	1	2	3	4	5
Puts me in a good mood and this helps me be a better worker	1	2	3	4	5
Makes me feel happy and this helps me be a better worker	1	2	3	4	5
Makes me cheerful and this helps me be a better worker	1	2	3	4	5

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Appendix 2: Survey Two. Samples 1, 2 and 5

Please circle the number that best represents your opinion relating to the following goals or aspirations that you hope to accomplish over the course of your life.

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
In most ways my life is close to ideal	1	2	3	4	5
The conditions of my life are excellent	1	2	3	4	5
I am satisfied with my life	1	2	3	4	5
So far I have gotten the important things I want in life	1	2	3	4	5
If I could live my life over, I would change almost nothing	1	2	3	4	5
Most days I am enthusiastic about my work	1	2	3	4	5
I feel fairly satisfied with my present job	1	2	3	4	5
Each day at work seems like it will never end	1	2	3	4	5
I find real enjoyment in my work	1	2	3	4	5
I consider my job rather unpleasant	1	2	3	4	5
A great satisfaction in my life comes from my role as a spouse/partner	1	2	3	4	5
I would be a less fulfilled person without my role as a spouse/partner	1	2	3	4	5
I am happy with my current relationship	1	2	3	4	5
I am happy with my family situation	1	2	3	4	5
I am satisfied with the success I have achieved in my career	1	2	3	4	5
I am satisfied with the progress I have made toward meeting my overall career goals	1	2	3	4	5
I am satisfied with the progress I have made toward meeting my income goals	1	2	3	4	5
I am satisfied with the progress I have made toward meeting my goals for advancement	1	2	3	4	5
I am satisfied with the progress I have made toward meeting my goals for the develop of new skills	1	2	3	4	5
I would be very happy to spend the rest of my career with this organisation	1	2	3	4	5
I really feel as if this organisation's problems are my own	1	2	3	4	5
I do not feel a strong sense of "belonging" to my organisation	1	2	3	4	5
I do not feel "emotionally attached" to this organisation	1	2	3	4	5
I do not feel like "part of the family" at my organisation	1	2	3	4	5
This organisation has a great deal of personal meaning for me	1	2	3	4	5
Right now, staying with my organisation is a matter of necessity as much as desire	1	2	3	4	5
It would be very hard for me to leave my organisation right now, even if I wanted to	1	2	3	4	5
Too much of my life would be disrupted if I decided I wanted to leave my organisation now	1	2	3	4	5
I feel that I have too few options to consider leaving this organisation	1	2	3	4	5
If I had not already put so much of myself into this organisation, I might consider working elsewhere	1	2	3	4	5
One of the negative consequences of	1	2	3	4	5

leaving this organisation would be the scarcity of available alternatives					
I do not feel any obligation to remain with my current employer	1	2	3	4	5
Even if it were to my advantage, I do not feel it would be right to leave my organisation now	1	2	3	4	5
I would feel guilty if I left my organisation now	1	2	3	4	5
This organisation deserves my loyalty	1	2	3	4	5
I would not leave my organisation right now because I have a sense of obligation to the people in it	1	2	3	4	5
I owe a great deal to my organisation	1	2	3	4	5
About you and your job...					
My job is extremely stressful	1	2	3	4	5
A lot of stressful things happen to me at work	1	2	3	4	5
I feel a great deal of stress because of my job	1	2	3	4	5
I almost always feel stressed because of my work	1	2	3	4	5
About your relationship with your partner...					
I am pleased with the personality characteristics and personal habits of my partner	1	2	3	4	5
I am happy about our communication and feel my partner understands me well	1	2	3	4	5
I am very happy about how we make decisions and resolve conflicts	1	2	3	4	5
I am very happy with how we manage the time we spend together	1	2	3	4	5

Thinking of the past few weeks, how much of the time has your own job made you feel each of the following?

	All of the Time				
	Most of the Time				
	Much of the Time				
	Some of the Time				
	Never				
Comfortable?	1	2	3	4	5
Relaxed?	1	2	3	4	5
Calm?	1	2	3	4	5
Anxious?	1	2	3	4	5
Worried?	1	2	3	4	5
Tense?	1	2	3	4	5
Enthusiastic?	1	2	3	4	5
Optimistic?	1	2	3	4	5
Cheerful?	1	2	3	4	5
Depressed?	1	2	3	4	5
Gloomy?	1	2	3	4	5
Miserable?	1	2	3	4	5

Read the following statements and by circling the number, indicate the extent to which you experience the following statements:

	Always				
	A few times a week				
	A few times a month				
	A few times a year				
	Never				
I feel emotionally drained from my work	1	2	3	4	5
I feel used up at the end of the workday	1	2	3	4	5
I feel tired when I get up in the morning and have to face another day on the job	1	2	3	4	5
Working all day is really a strain for me	1	2	3	4	5
I feel burned out from my work	1	2	3	4	5
I have become less interested in my work since I started this job	1	2	3	4	5
I have become less enthusiastic about my work	1	2	3	4	5
I have become more cynical about whether my work contributes anything	1	2	3	4	5
I doubt the significance of my work	1	2	3	4	5
I just want to do my job and not be bothered	1	2	3	4	5
When I get up in the morning, I feel like going to work	1	2	3	4	5
At my work, I feel bursting with energy	1	2	3	4	5
At my work I always persevere, even when things do not go well	1	2	3	4	5
I can continue working for very long periods at a time	1	2	3	4	5
At my job, I am very resilient, mentally	1	2	3	4	5
At my job I feel strong and vigorous	1	2	3	4	5
To me, my job is challenging	1	2	3	4	5
My job inspires me	1	2	3	4	5
I am enthusiastic about my job	1	2	3	4	5
I am proud on the work that I do	1	2	3	4	5
I find the work that I do full of meaning and purpose	1	2	3	4	5
When I am working, I forget everything else around me	1	2	3	4	5
Time flies when I am working	1	2	3	4	5
I get carried away when I am working	1	2	3	4	5
It is difficult to detach myself from my job	1	2	3	4	5
I am immersed in my work	1	2	3	4	5
I feel happy when I am working intensely	1	2	3	4	5

The questions below are related to your experience with your most immediate manager/supervisor. Managers have different styles in dealing with employees, and we would like to know more about how you have felt about your encounters with your manager. Your responses are confidential. Please be honest and candid.

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
I feel that my manager provides me choices and options.	1	2	3	4	5
I feel understood by my manager	1	2	3	4	5
My manager conveyed confidence in my ability to do well at my job	1	2	3	4	5
My manager encouraged me to ask questions	1	2	3	4	5
My manager listens to how I would like to do things	1	2	3	4	5
My manager tries to understand how I see things before suggesting a new way to do things	1	2	3	4	5
My leader...					

When making decisions, asks "what is the right thing to do?"	1	2	3	4	5
Conducts his/her personal life in an ethical manner	1	2	3	4	5
Has the best interests of employees in mind	1	2	3	4	5
Makes fair and balanced decisions	1	2	3	4	5
Can be trusted	1	2	3	4	5
Sets an example of how to do things the right way in terms of ethics	1	2	3	4	5

Indicate the extent to which the following statements accurately describe you.

	Describes me very well				
	Does not describe me at all				
I feel out of touch with the 'real me'	1	2	3	4	5
I feel as if I don't know myself very well	1	2	3	4	5
I don't know how I really feel inside	1	2	3	4	5
I feel alienated from myself	1	2	3	4	5
Other people influence me greatly	1	2	3	4	5
I usually do what other people tell me to do	1	2	3	4	5
I am strongly influenced by the opinions of others	1	2	3	4	5
I always feel I need to do what others expect me to do	1	2	3	4	5
I live in accordance with my values and beliefs	1	2	3	4	5
I am true to myself in most situations	1	2	3	4	5
I always stand by what I believe in	1	2	3	4	5
I think it is better to be yourself, than to be popular	1	2	3	4	5

Indicate the extent to which you have done the following.

	Daily				
	Sometimes				
	Never				
Made fun of someone at work	1	2	3	4	5
Said something hurtful to someone at work	1	2	3	4	5
Cursed at someone at work	1	2	3	4	5
Acted rudely toward someone at work	1	2	3	4	5
Taken property from work without permission	1	2	3	4	5
Taken an additional or longer break than is acceptable at your workplace	1	2	3	4	5
Neglected to follow your boss's instructions	1	2	3	4	5
Intentionally worked slower than you could have worked	1	2	3	4	5
Discussed confidential company information with an unauthorized person	1	2	3	4	5
Put little effort into your work	1	2	3	4	5

Below is a set of words that describe different feelings and emotions. Please read each word and then indicate to what extent you have felt this way during the past week.

	Extremely				
	Quite a Bit				
	Moderately				
	A Little				
	Very Slightly				
Enthusiastic	1	2	3	4	5
Interested	1	2	3	4	5
Determined	1	2	3	4	5
Excited	1	2	3	4	5
Inspired	1	2	3	4	5
Upset	1	2	3	4	5
Irritable	1	2	3	4	5
Scared	1	2	3	4	5
Ashamed	1	2	3	4	5
Jittery	1	2	3	4	5

Indicate the extent to which you have done the following.

	Often				
	Sometimes				
	Never				
I have done housework or shopping for one or more close friends who was sick	1	2	3	4	5
I have offered to give a ride to one or more acquaintances even though it meant going out of my way	1	2	3	4	5
I have stopped to help a stranger who was having difficulty	1	2	3	4	5
I have done volunteer work for a charity or community organization	1	2	3	4	5

Read each pair of statements below and place an "X" by the one that comes closest to describing your feelings and beliefs about yourself. You may feel that neither statement describes you well, but pick the one that comes closest. Please complete all pairs.

1. ☐ I really like to be the centre of attention
☐ It makes me uncomfortable to be the centre of attention
2. ☐ I usually get the respect that I deserve
☐ I insist upon getting the respect that is due me
3. ☐ I don't mind following orders
☐ I like having authority over people
4. ☐ People sometimes believe what I tell them
☐ I can make anybody believe anything I want them to
5. ☐ I am much like everybody else
☐ I am an extraordinary person
6. ☐ Being an authority doesn't mean that much to me
☐ People always seem to recognize my authority

To what extent does ... explain your objective for engaging in any job search activities in the past six months?

	To a very great extent				
	To some extent				
	To no extent				
Finding a new job	1	2	3	4	5
Looking for a new challenge in your career	1	2	3	4	5
Changing jobs	1	2	3	4	5
Staying aware of developments in the labour market	1	2	3	4	5
Staying informed about all kinds of job opportunities	1	2	3	4	5

Staying aware of possible job alternatives	1	2	3	4	5
Developing new professional relationships	1	2	3	4	5
Getting to know interesting people and companies	1	2	3	4	5
Developing a network of useful connections	1	2	3	4	5
Obtaining leverage against your current or a potential employer	1	2	3	4	5
Negotiating better compensation with your current or a potential employer	1	2	3	4	5
Negotiating more responsibilities with your current or a potential employer	1	2	3	4	5

Please indicate how often you engage in the following behaviours...

	All of the Time				
	Most of the Time				
	Much of the Time				
	Some of the Time				
	Never				
Help others who have been absent.	1	2	3	4	5
Willingly give your time to help others who have work-related problems.	1	2	3	4	5
Adjust your work schedule to accommodate other employees' requests for time off.	1	2	3	4	5
Go out of the way to make newer employees feel welcome in the work group.	1	2	3	4	5
Show genuine concern and courtesy toward coworkers, even under the most trying business or personal situations.	1	2	3	4	5
Give up time to help others who have work or non-work problems.	1	2	3	4	5
Assist others with their duties.	1	2	3	4	5
Share personal property with others to help their work.	1	2	3	4	5
Attend functions that are not required but that help the organizational image.	1	2	3	4	5
Keep up with developments in the organization.	1	2	3	4	5
Defend the organization when other employees criticize it.	1	2	3	4	5
Show pride when representing the organization in public.	1	2	3	4	5
Offer ideas to improve the functioning of the organization.	1	2	3	4	5
Express loyalty toward the organization.	1	2	3	4	5
Take action to protect the organization from potential problems.	1	2	3	4	5
Demonstrate concern about the image of the organization.	1	2	3	4	5

Finally, rate yourself on the following...

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
I am always punctual in arriving at work on time after breaks	1	2	3	4	5

I always begin work on time	1	2	3	4	5
My attendance at work is above the norm	1	2	3	4	5
I give advance notice when unable to come to work	1	2	3	4	5

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Appendix 3: Survey One. Sample 3 - CEOs

A few questions about you (circle/insert as applicable)

Your age:	Parent? Yes / No
Married/De Facto? Yes / No	
Gender: Male / Female	Total hours worked per week:
Org tenure:	Job tenure:
Highest education completed:	
Your main industry:	
Sector: Private / Public / Not-for-Profit	
Total number of employees in your firm (approx):	

Please circle the number that best represents your opinion relating to the following goals or aspirations that you hope to accomplish over the course of your life.

	Very				
	Moderately				
	Not at all				
To be a very wealthy person	1	2	3	4	5
To have many expensive possessions	1	2	3	4	5
To be financially successful	1	2	3	4	5
To be rich	1	2	3	4	5
To have enough money to buy everything I want	1	2	3	4	5
To have my name known by many people	1	2	3	4	5
To be admired by many people	1	2	3	4	5
To be famous	1	2	3	4	5
To have my name appear frequently in the media	1	2	3	4	5
To be admired by lots of different people	1	2	3	4	5
To successfully hide the signs of aging	1	2	3	4	5
To have people comment often about how attractive I look	1	2	3	4	5
To keep up with fashions in hair and clothing	1	2	3	4	5
To achieve the "look" I've been after	1	2	3	4	5
To have an image that others find appealing	1	2	3	4	5
To grow and learn new things	1	2	3	4	5
At the end of my life, to be able to look back on my life as meaningful and complete	1	2	3	4	5
To choose what I do, instead of being pushed along by life	1	2	3	4	5
To know and accept who I really am	1	2	3	4	5
To gain increasing insight into why I do the things I do	1	2	3	4	5
To have good friends that I can count on	1	2	3	4	5
To share my life with someone I love	1	2	3	4	5
To have committed, intimate relationships	1	2	3	4	5
To feel that there are people who really love me, and whom I love	1	2	3	4	5
To have deep enduring relationships	1	2	3	4	5
To work for the betterment of society	1	2	3	4	5
To assist people who need it, asking nothing in return	1	2	3	4	5
To work to make the world a better place	1	2	3	4	5
To help others improve their lives	1	2	3	4	5
To help people in need	1	2	3	4	5
To be physically healthy	1	2	3	4	5
To feel good about my level of physical fitness	1	2	3	4	5
To keep myself healthy and well	1	2	3	4	5

To be relatively free from sickness	1	2	3	4	5
To have a physically healthy life style	1	2	3	4	5

Please read each of the following items, thinking about how it relates to your job, and then indicate how true it is for you.

	Very true				
	Somewhat true				
	Not at all true				
I feel like I can be myself at my job	1	2	3	4	5
At work, I often feel like I have to follow other people's commands	1	2	3	4	5
If I could choose, I would do things at work differently	1	2	3	4	5
The tasks I have to do at work are in line with what I really want to do	1	2	3	4	5
I feel free to do my job the way I think it could best be done	1	2	3	4	5
In my job, I feel forced to do things I do not want to do	1	2	3	4	5
I really master my tasks at my job	1	2	3	4	5
I feel competent at my job	1	2	3	4	5
I am good at the things I do in my job	1	2	3	4	5
I have the feeling that I can even accomplish the most difficult tasks at work	1	2	3	4	5
I don't really feel connected with other people at my job	1	2	3	4	5
At work, I feel part of a group	1	2	3	4	5
I don't really mix with other people at my job	1	2	3	4	5
At work, I can talk with people about things that really matter to me	1	2	3	4	5
I often feel alone when I am with my colleagues	1	2	3	4	5
Some people I work with are close friends of mine	1	2	3	4	5

Please indicate to what extent each of the following items corresponds to the reasons why you are presently involved in your work.

	Corresponds exactly				
	Corresponds moderately				
	Does not correspond at all				
Because I derive much pleasure from learning new things	1	2	3	4	5
For the satisfaction I experience from taking on interesting challenges	1	2	3	4	5
For the satisfaction I experience when I am successful at doing difficult tasks	1	2	3	4	5
Because it has become a fundamental part of who I am	1	2	3	4	5
Because it is part of the way in which I have chosen to live my life	1	2	3	4	5
Because this job is a part of my life	1	2	3	4	5
Because this is the type of work I chose to do to attain a certain lifestyle	1	2	3	4	5
Because I chose this type of work to attain my career goals	1	2	3	4	5
Because it is the type of work I have chosen to attain certain important objectives	1	2	3	4	5
Because I want to succeed at this job, if not I would be very ashamed of myself	1	2	3	4	5

Because I want to be very good at this work, otherwise I would be very disappointed	1	2	3	4	5
Because I want to be a “winner” in life	1	2	3	4	5
For the income it provides me	1	2	3	4	5
Because it allows me to earn money	1	2	3	4	5
Because this type of work provides me with security	1	2	3	4	5
I ask myself this question, I don’t seem to be able to manage the important tasks related to this work	1	2	3	4	5
I don’t know why, we are provided with unrealistic working conditions	1	2	3	4	5
I don’t know, too much is expected of us	1	2	3	4	5

Below is a collection of statements about your everyday experience. Please indicate how frequently or infrequently you currently have of each experience. Please answer according to what really reflects your experience rather than what you think your experience should be.

	All of the Time				
	Most of the Time				
	Much of the Time				
	Some of the Time				
	Never				
I could be experiencing some emotion and not be conscious of it until sometime later	1	2	3	4	5
I break or spill things because of carelessness, not paying attention, or thinking of something else	1	2	3	4	5
I find it difficult to stay focused on what’s happening in the present	1	2	3	4	5
I tend to walk quickly to get where I’m going without paying attention to what I experience along the way	1	2	3	4	5
I tend not to notice feelings of physical tension or discomfort until they really grab my attention	1	2	3	4	5
I forget a person’s name almost as soon as I’ve been told it for the first time	1	2	3	4	5
It seems I am “running on automatic” without much awareness of what I’m doing	1	2	3	4	5
I rush through activities without being really attentive to them	1	2	3	4	5
I get so focused on the goal I want to achieve that I lose touch with what I’m doing right now to get there	1	2	3	4	5
I do jobs or tasks automatically, without being aware of what I’m doing	1	2	3	4	5
I find myself listening to someone with one ear, doing something else at the same time	1	2	3	4	5
I drive places on ‘automatic pilot’ and then wonder why I went there	1	2	3	4	5
I find myself preoccupied with the future or the past	1	2	3	4	5
I find myself doing things without paying attention	1	2	3	4	5
I snack without being aware that I’m eating	1	2	3	4	5

Respond to the following questions about how you feel “right now”

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
I feel confident analyzing a long-term problem to find a solution	1	2	3	4	5
I feel confident in representing my work area in meetings with management	1	2	3	4	5
I feel confident contributing to discussions about the company’s strategy	1	2	3	4	5
I feel confident helping to set targets/ goals in my work area	1	2	3	4	5
I feel confident contacting people outside the company (e.g. suppliers, customers) to discuss problems	1	2	3	4	5
I feel confident presenting information to a group of colleagues	1	2	3	4	5
If I should find myself in a jam at work, I could think of many ways to get out of it	1	2	3	4	5
At the present time, I am energetically pursuing my work goals	1	2	3	4	5
There are lots of ways around any problem	1	2	3	4	5
Right now I see myself as being pretty successful at work	1	2	3	4	5
I can think of many ways to reach my current work goals	1	2	3	4	5
At this time, I am meeting the work goals that I have set for myself	1	2	3	4	5
When I have a setback at work, I have trouble recovering from it, moving on	1	2	3	4	5
I usually manage difficulties one way or another at work	1	2	3	4	5
I can be “on my own”, so to speak, at work if I have to be	1	2	3	4	5
I usually take stressful things at work in stride	1	2	3	4	5
I can get through difficult times at work because I’ve experienced difficulty before	1	2	3	4	5
I feel I can handle many things at a time at this job	1	2	3	4	5
When things are uncertain for me at work, I usually expect the best	1	2	3	4	5
If something can go wrong for me work-wise, it will	1	2	3	4	5
I always look on the bright side of things regarding my job	1	2	3	4	5
I’m optimistic about what will happen to me in the future as it pertains to work	1	2	3	4	5
In this job, things never work out the way I want them to	1	2	3	4	5
I approach this job as if “every cloud has a silver lining”	1	2	3	4	5

Because I want to be very good at this work, otherwise I would be very disappointed	1	2	3	4	5
Because I want to be a “winner” in life	1	2	3	4	5
For the income it provides me	1	2	3	4	5
Because it allows me to earn money	1	2	3	4	5
Because this type of work provides me with security	1	2	3	4	5
I ask myself this question, I don’t seem to be able to manage the important tasks related to this work	1	2	3	4	5
I don’t know why, we are provided with unrealistic working conditions	1	2	3	4	5
I don’t know, too much is expected of us	1	2	3	4	5

Below is a collection of statements about your everyday experience. Please indicate how frequently or infrequently you currently have of each experience. Please answer according to what really reflects your experience rather than what you think your experience should be.

	All of the Time				
	Most of the Time				
	Much of the Time				
	Some of the Time				
	Never				
I could be experiencing some emotion and not be conscious of it until sometime later	1	2	3	4	5
I break or spill things because of carelessness, not paying attention, or thinking of something else	1	2	3	4	5
I find it difficult to stay focused on what’s happening in the present	1	2	3	4	5
I tend to walk quickly to get where I’m going without paying attention to what I experience along the way	1	2	3	4	5
I tend not to notice feelings of physical tension or discomfort until they really grab my attention	1	2	3	4	5
I forget a person’s name almost as soon as I’ve been told it for the first time	1	2	3	4	5
It seems I am “running on automatic” without much awareness of what I’m doing	1	2	3	4	5
I rush through activities without being really attentive to them	1	2	3	4	5
I get so focused on the goal I want to achieve that I lose touch with what I’m doing right now to get there	1	2	3	4	5
I do jobs or tasks automatically, without being aware of what I’m doing	1	2	3	4	5
I find myself listening to someone with one ear, doing something else at the same time	1	2	3	4	5
I drive places on ‘automatic pilot’ and then wonder why I went there	1	2	3	4	5
I find myself preoccupied with the future or the past	1	2	3	4	5
I find myself doing things without paying attention	1	2	3	4	5
I snack without being aware that I’m eating	1	2	3	4	5

Respond to the following questions about how you feel “right now”

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
I feel confident analyzing a long-term problem to find a solution	1	2	3	4	5
I feel confident in representing my work area in meetings with management	1	2	3	4	5
I feel confident contributing to discussions about the company’s strategy	1	2	3	4	5
I feel confident helping to set targets/ goals in my work area	1	2	3	4	5
I feel confident contacting people outside the company (e.g. suppliers, customers) to discuss problems	1	2	3	4	5
I feel confident presenting information to a group of colleagues	1	2	3	4	5
If I should find myself in a jam at work, I could think of many ways to get out of it	1	2	3	4	5
At the present time, I am energetically pursuing my work goals	1	2	3	4	5
There are lots of ways around any problem	1	2	3	4	5
Right now I see myself as being pretty successful at work	1	2	3	4	5
I can think of many ways to reach my current work goals	1	2	3	4	5
At this time, I am meeting the work goals that I have set for myself	1	2	3	4	5
When I have a setback at work, I have trouble recovering from it, moving on	1	2	3	4	5
I usually manage difficulties one way or another at work	1	2	3	4	5
I can be “on my own”, so to speak, at work if I have to be	1	2	3	4	5
I usually take stressful things at work in stride	1	2	3	4	5
I can get through difficult times at work because I’ve experienced difficulty before	1	2	3	4	5
I feel I can handle many things at a time at this job	1	2	3	4	5
When things are uncertain for me at work, I usually expect the best	1	2	3	4	5
If something can go wrong for me work-wise, it will	1	2	3	4	5
I always look on the bright side of things regarding my job	1	2	3	4	5
I’m optimistic about what will happen to me in the future as it pertains to work	1	2	3	4	5
In this job, things never work out the way I want them to	1	2	3	4	5
I approach this job as if “every cloud has a silver lining”	1	2	3	4	5

Appendix 4: Survey Two. Sample 3 - CEOs

Please circle the number that best represents your opinion relating to the following goals or aspirations that you hope to accomplish over the course of your life.

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
	1	2	3	4	5
In most ways my life is close to ideal					
The conditions of my life are excellent					
I am satisfied with my life					
So far I have gotten the important things I want in life					
If I could live my life over, I would change almost nothing					
Most days I am enthusiastic about my work					
I feel fairly satisfied with my present job					
Each day at work seems like it will never end					
I find real enjoyment in my work					
I consider my job rather unpleasant					
I am satisfied with the success I have achieved in my career					
I am satisfied with the progress I have made toward meeting my overall career goals					
I am satisfied with the progress I have made toward meeting my income goals					
I am satisfied with the progress I have made toward meeting my goals for advancement					
I am satisfied with the progress I have made toward meeting my goals for the develop of new skills					

	Absolutely True				
	Somewhat True				
	Neither				
	Somewhat Untrue				
	Absolutely Untrue				
	1	2	3	4	5
I understand my life's meaning					
I am looking for something that makes my life feel meaningful					
I am always looking to find my life's purpose					
My life has a clear sense of purpose					
I have a good sense of what makes my life meaningful					
I have discovered a satisfying life purpose					
I am always searching for something that makes my life feel significant					
I am seeking a purpose or mission for my life					
My life has no clear purpose					
I am searching for meaning in my life					

Thinking of the past few weeks, how much of the time has your own job made you feel each of the following?

	All of the Time				
	Most of the Time				
	Much of the Time				
	Some of the Time				
	Never				
	1	2	3	4	5
Comfortable?					
Relaxed?					
Calm?					
Anxious?					
Worried?					

Tense?	1	2	3	4	5
Enthusiastic?	1	2	3	4	5
Optimistic?	1	2	3	4	5
Cheerful?	1	2	3	4	5
Depressed?	1	2	3	4	5
Gloomy?	1	2	3	4	5
Miserable?	1	2	3	4	5

Read the following statements and by circling the number, indicate the extent to which you experience the following statements:

	Always				
	A few times a week				
	A few times a month				
	A few times a year				
	Never				
	1	2	3	4	5
I feel emotionally drained from my work					
I feel used up at the end of the workday					
I feel tired when I get up in the morning and have to face another day on the job					
Working all day is really a strain for me					
I feel burned out from my work					
I have become less interested in my work since I started this job					
I have become less enthusiastic about my work					
I have become more cynical about whether my work contributes anything					
I doubt the significance of my work					
I just want to do my job and not be bothered					
When I get up in the morning, I feel like going to work					
At my work, I feel bursting with energy					
At my work I always persevere, even when things do not go well					
I can continue working for very long periods at a time					
At my job, I am very resilient, mentally					
At my job I feel strong and vigorous					
To me, my job is challenging					
My job inspires me					
I am enthusiastic about my job					
I am proud on the work that I do					
I find the work that I do full of meaning and purpose					
When I am working, I forget everything else around me					
Time flies when I am working					
I get carried away when I am working					
It is difficult to detach myself from my job					
I am immersed in my work					
I feel happy when I am working intensely					

The following contains items that are related to your experience with your board of directors (or equivalent). Your responses are confidential.

	Strongly Agree				
	Agree				
	Neither Disagree or Agree				
	Disagree				
	Strongly Disagree				
I feel that my board provides me choices and options.	1	2	3	4	5
I feel understood by my board	1	2	3	4	5
My board conveyed confidence in my ability to do well at my job	1	2	3	4	5
My board encouraged me to ask questions	1	2	3	4	5
My board listens to how I would like to do things	1	2	3	4	5
My board tries to understand how I see things before suggesting a new way to do things	1	2	3	4	5

Indicate the extent to which the following statements accurately describes you.

	Describes me very well				
	Does not describe me at all				
1. I feel out of touch with the 'real me'	1	2	3	4	5
2. I feel as if I don't know myself very well	1	2	3	4	5
3. I don't know how I really feel inside	1	2	3	4	5
4. I feel alienated from myself	1	2	3	4	5
5. Other people influence me greatly	1	2	3	4	5
6. I usually do what other people tell me to do	1	2	3	4	5
7. I am strongly influenced by the opinions of others	1	2	3	4	5
8. I always feel I need to do what others expect me to do	1	2	3	4	5
9. I live in accordance with my values and beliefs	1	2	3	4	5
10. I am true to myself in most situations	1	2	3	4	5
11. I always stand by what I believe in	1	2	3	4	5
12. I think it is better to be yourself, than to be popular	1	2	3	4	5

Below is a set of words that describe different feelings and emotions. Please read each word and then indicate to what extent you have felt this way during the past week.

	Extremely				
	Quite a Bit				
	Moderately				
	A Little				
	Very Slightly				
Enthusiastic	1	2	3	4	5
Interested	1	2	3	4	5
Determined	1	2	3	4	5
Excited	1	2	3	4	5
Inspired	1	2	3	4	5
Upset	1	2	3	4	5
Irritable	1	2	3	4	5
Scared	1	2	3	4	5
Ashamed	1	2	3	4	5
Jittery	1	2	3	4	5

The following survey items refer to your leadership style, as you perceive it. Please judge how frequently each statement fits your leadership style.

	Frequently, if not always				
	Fairly often				
	Sometimes				
	Once in a while				
	Not at all				
As a leader I...					
Say exactly what I mean	1	2	3	4	5
Admit mistakes when they are made	1	2	3	4	5
Encourage everyone to speak their mind	1	2	3	4	5
Tell you the hard truth	1	2	3	4	5
Display emotions exactly in line with feelings	1	2	3	4	5
Demonstrate beliefs that are consistent with actions	1	2	3	4	5
Make decisions based on my core values	1	2	3	4	5
Ask you to take positions that support your core values	1	2	3	4	5
Make difficult decisions based on high standards of ethical conduct	1	2	3	4	5
Solicit views that challenge my deeply held positions	1	2	3	4	5
Analyze relevant data before coming to a decision	1	2	3	4	5
Listen carefully to different points of view before coming to conclusions	1	2	3	4	5
Seek feedback to improve interactions with others	1	2	3	4	5
Accurately describe how others view my capabilities	1	2	3	4	5
Know when it is time to reevaluate my position on important issues	1	2	3	4	5
Show I understand how specific actions impact others	1	2	3	4	5

Indicate for each of the following, your firm's performance relative to your competition for the last three years:

	Much Above Average				
	Above Average				
	Average				
	Below Average				
	Much Below Average				
1. Sales volume	1	2	3	4	5
2. Growth in sales volume	1	2	3	4	5
3. Market share	1	2	3	4	5
4. Growth in market share	1	2	3	4	5
5. Market Development	1	2	3	4	5
6. Product Development	1	2	3	4	5
7. Profit margin	1	2	3	4	5
8. Return on own capital	1	2	3	4	5
9. Net profits	1	2	3	4	5

Estimate your firm's turnover rate in the past year?	%
--	---

THANK YOU FOR YOUR TIME!! ☺

Appendix 5: Example of letter to CEOS inviting participation.

Top New Zealand CEO Survey and Benchmark Findings

As one of New Zealand's top CEOs you are invited to participate in a survey run by the University of Waikato. The survey examines top CEO leadership styles and outcomes (both personal and organisational). Once your surveys have been returned we will provide you with a brief report on the overall research findings from all participants amongst the top CEOs of New Zealand. Furthermore, this report will identify how you **personally** compare to the 'average' amongst the study's respondents, along with a brief explanation. A short example is provided on the other side of this page.

The survey is in two parts. Included with this letter is survey one. Once we have received this survey, we will forward you survey two within a fortnight. Note the surveys are split to enhance the reliability of the study, and that completion of both surveys is required to make reporting possible. Both surveys should take you approximately 12-15 minutes to complete.

Your participation in the research is completely voluntary, and responses will be treated with the utmost confidentiality. You will never be individually identified (except back to you in your own report). Academic papers are likely to be generated from this study as a way of disseminating the results. However, your individual responses will **never be identified** and similarly your firms name will **never be reported**. In order to maintain your confidentiality, the attached survey is linked with an ID code to aid matching the follow-up survey. However, once surveys are matched, any identifying aspects (e.g. your name, company) will be removed. Further, all surveys will be subject to the University of Waikato's strict privacy guidelines.

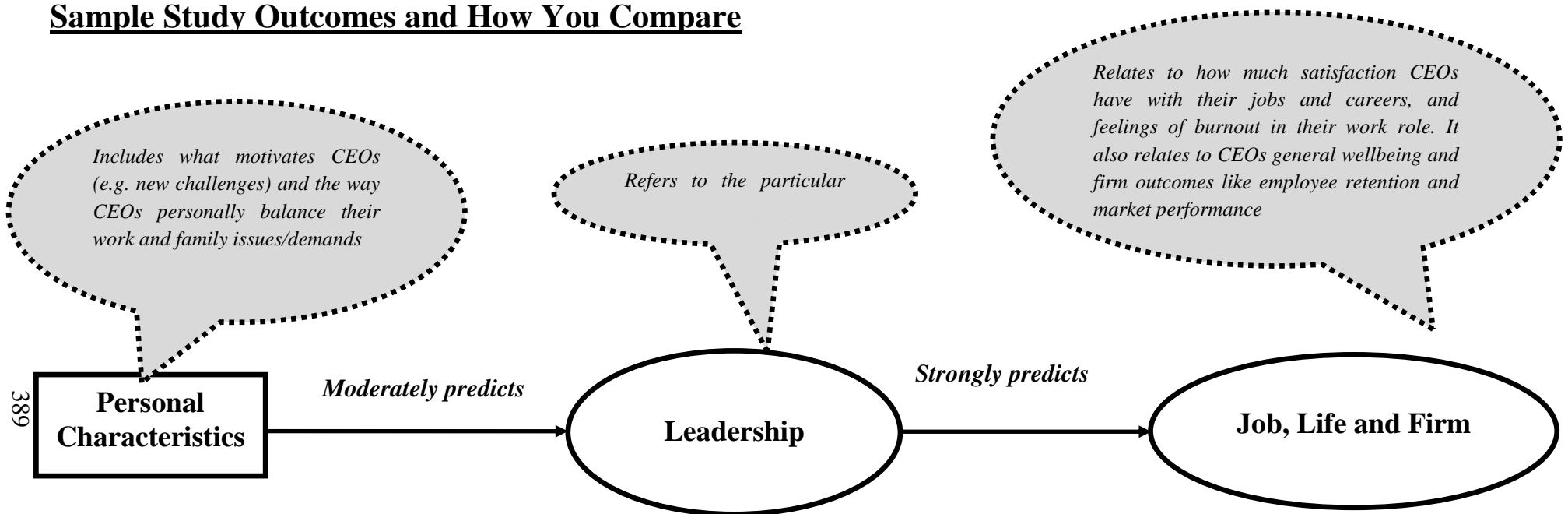
Please be aware there are no right or wrong answers to the questions asked – just circle the number that corresponds closest to what you feel or agree/disagree with. If you have any questions or concerns about this study, please contact Associate Professor Jarrod Haar at haar@waikato.ac.nz or on (021) 902-711.

Yours Sincerely,



Associate Professor Jarrod Haar

Sample Study Outcomes and How You Compare



Scores range from 1(low) to 5(high). Average scores represent all CEO respondents – highlighted score/rank is your personal score				
<i>Intrinsic Motivation</i>	<i>Leadership Style</i>	<i>Job Satisfaction</i>	<i>Job Burnout</i>	<i>Employee Retention</i>
Average Score = 3.2	Average Score = 3.5	Average Score = 3.2	Average Score = 2.9	Average Score = 17.5%
Your score = 3.6	Your score = 3.4	Your score = 3.5	Your score = 2.2	Your score = 21.5%
Top 25%	Middle Block [26-75%]	Top 25%	Bottom 25%	Top 25%

Information will be provided on significant relationships found to impact the study outcomes!

The report will include a brief overview and interpretation of total results.

The report will also include a brief interpretation of your individual results.

This is a brief example and the actual report

Your score indicates your level of job burnout is amongst the bottom 25% of all

Appendix 6: Example of feedback to CEOs

Dear _____

Results of the Top New Zealand CEO Survey

Thank you for participating in our survey of New Zealand's top CEOs. We had a good response with over 200 CEOs completing both survey 1 and 2. As promised, please find attached:

1. A diagram summarising the overall survey data.
2. A fact sheet describing the survey dimensions.
3. A summary of the overall survey data and your own scores for comparison, including a brief interpretation of the overall findings.

Please note that while we have personally calculated your own scores this is for your information only and this individualised aspect will **never** be used outside of this report. Again, academic papers will be at the combined level of analysis only and no firm names will ever be used.

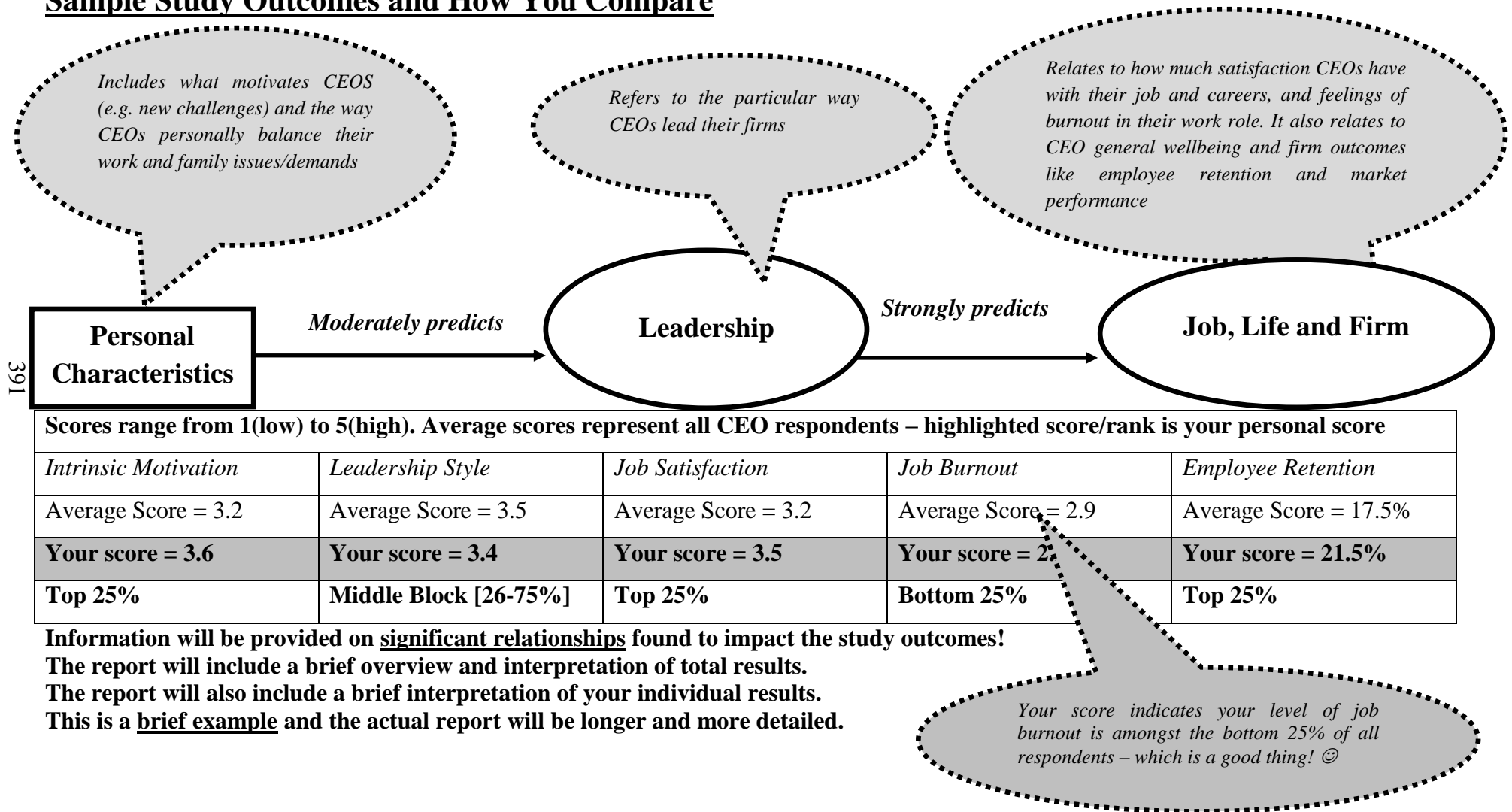
If you have any questions or concerns about this study, or either of the follow up studies, please contact Associate Professor Jarrod Haar at haar@waikato.ac.nz or on (021) 902-711.

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'Jarrod Haar', with a stylized flourish at the end.

Associate Professor Jarrod Haar

Sample Study Outcomes and How You Compare



2. FACT SHEET

The following section briefly explains the variables listed above. It is separated into two sections: (1) outcome variables, and (2) predictor variables.

OUTCOMES:

Job Satisfaction: Overall, one's satisfaction with your job.

Career Satisfaction: Overall, one's satisfaction with your career (progression).

Life Satisfaction: Overall, one's satisfaction with your life.

Work Engagement: Anti-thesis to job burnout, work engagement relates to a positive, fulfilling, work-related state that is not characterised by a particular object or event (e.g. pay rise).

Job Burnout: Characterised by physical and emotional exhaustion and feelings of reduced effectiveness.

Anxiety: Characterised by feelings of high stress relating to high stimulation but low enjoyment.

Firm Performance: Overall, how the firm performed compared to rivals, on three factors: (1) market performance (e.g. market share), (2) development performance (e.g. R&D) and (3) financial performance (e.g. ROI).

PREDICTORS:

Work-Family Conflict: The strain of work issues entering the home (e.g. working late).

Work-Family Enrichment: The positive emotional state from work that enters the home (e.g. being in a positive mood).

Work-Life Balance: Extent to which an individual is able to actively engage in and manage the multiple roles in their life (e.g. work, family, other roles).

Overall Motivation: Overall, the degree to which a person is motivated by the work itself (and organizational values), rather than externalities such as pay and conditions. By overall, we subtracted the negative types of motivation from the positives.

Psychological Capital: Defined as an individual's positive psychological state of development that is characterized by: (1) confidence; (2) optimism; (3) perseverance; and (4) resilience, all towards success and overcoming challenges.

Authentic Leadership: Refers to being true to one's values and beliefs and being able to resist pressure, and continue to act in accordance with one's beliefs and values even in stressful situations.

CEO Feedback

- Only significant predictors under each outcome are shown.
- + sign indicates a positive effect; - sign indicates a negative effect.
- All measures used range from 1 (low) to 5 (high), except motivation which ranged from -1 (low) to +3 (high).

Positive Outcomes (Higher the better)		
Outcomes:	Average Score	Your Score
Authentic Leadership	3.7	
Interpretation: Higher authentic leadership is achieved by being more motivated and having greater psychological capital. However, work-family conflict does reduce this.		
- Work-Family Conflict	2.4	
+ Overall Motivation	1.1	
+ Psychological Capital	4.2	
Job Satisfaction	4.2	
Interpretation: Higher job satisfaction is achieved by being more motivated and having greater work-family enrichment.		
+ Work-Family Enrichment	3.3	
+ Overall Motivation	1.1	
Career Satisfaction	4.1	
Interpretation: Higher career satisfaction is achieved by having greater work-life balance and by being more authentic and true in your leadership style.		
+ Work-Life Balance	3.7	
+ Authentic Leadership	3.7	
Life Satisfaction	3.8	
Interpretation: Higher life satisfaction is achieved by having greater work-family enrichment and work-life balance and by having greater psychological capital.		
+ Work-Family Enrichment	3.3	
+ Work-Life Balance	3.7	
+ Psychological Capital	4.2	
Work Engagement	4.1	
Interpretation: Higher work engagement is achieved by having greater work-family enrichment and by having greater psychological capital. Furthermore, being more motivated and more authentic and true in your leadership style also increases it.		
+ Work-Family Enrichment	3.3	
+ Psychological Capital	4.2	
+ Overall Motivation	1.1	
+ Authentic Leadership	3.7	

Overall Summary: Having conducted similar surveys on many thousands (5000+) of New Zealand employees in a wide range of professions and industry sectors, I'd like to offer the following insights: Your overall levels of job and career satisfaction and work engagement are significantly higher than the average New

Zealand employees including junior and senior managers, as well as international employees. This likely reflects the uniqueness of CEO status. Similarly, life satisfaction is significantly higher. Overall, your level of authentic leadership is similar to those of other New Zealand junior and senior managers. However, by international comparisons, this score is high!

Detrimental Outcomes (Lower the better)		
Outcomes:	Average Score	Your Score
Anxiety	2.5	
+ Work-Family Conflict	2.4	
- Work-Family Enrichment	3.3	
- Work-Life Balance	3.7	
Interpretation: Lower anxiety is achieved by having greater work-family enrichment and work-life balance although greater work-family conflict increases anxiety.		
Job Burnout	2.0	
+ Work-Family Conflict	2.4	
- Work-Family Enrichment	3.3	
- Work-Life Balance	3.7	
Interpretation: Lower job burnout is achieved by having greater work-family enrichment and work-life balance although greater work-family conflict increases anxiety.		

Overall Summary: As noted above when compared to other studies your overall levels of job burnout are significantly lower than the average New Zealand employee, and lower than other junior and senior managers. Again, this likely reflects the uniqueness of CEO status. However, your level of anxiety is similar to other New Zealand employees including junior and senior managers.